



Missouri Department of Transportation and  
Highway Patrol Employees' Retirement System

*A Component Unit of the State of Missouri*

2010



# Weathering The Storm

Comprehensive Annual Financial Report  
For the Fiscal Year Ended June 30, 2010



Missouri Department of Transportation and  
Highway Patrol Employees' Retirement System

*A Component Unit of the State of Missouri*

2010



# Weathering The Storm

*Susie Dahl, Executive Director*  
1913 William Street, PO Box 1930  
Jefferson City, MO 65102-1930  
(800) 270-1271, (573) 298-6080

Comprehensive Annual Financial Report  
For the Fiscal Year Ended June 30, 2010

# Notes



# MoDOT and Patrol Employees' Retirement System



## **Mailing Address**

PO Box 1930  
Jefferson City, Missouri 65102-1930

## **Street Address**

1913 William Street  
Jefferson City, Missouri 65109

## **Phone Numbers**

Main Line  
(573) 298-6080

Toll Free  
(800) 270-1271

Office Directory  
(573) 298-6081

## **Fax Numbers**

Administrative  
(573) 526-5895

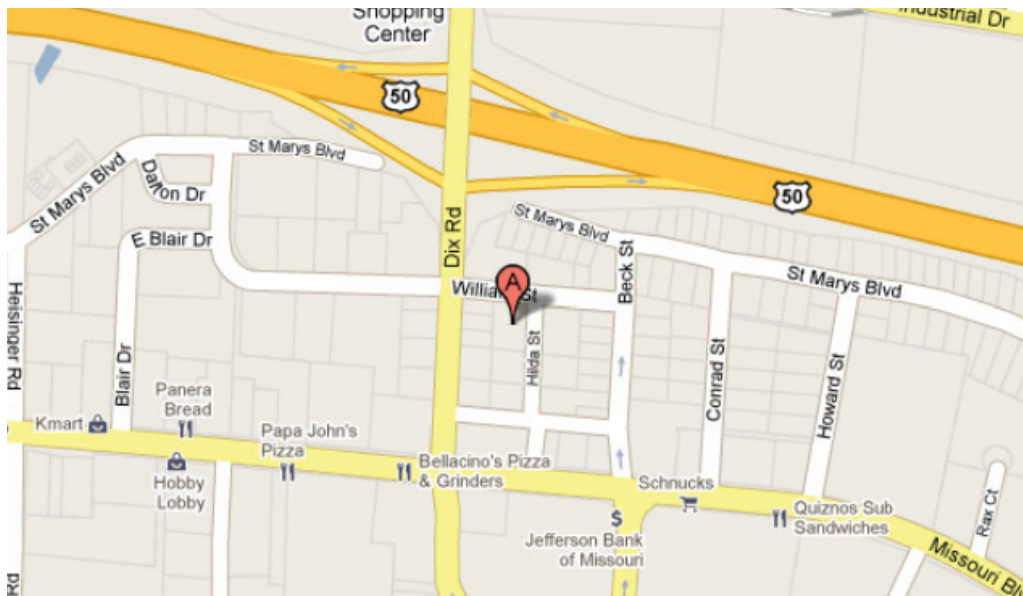
Benefits  
(573) 522-6111

## **E-Mail Address**

[mpers@modot.mo.gov](mailto:mpers@modot.mo.gov)

## **WebSite**

[www.mpers.org](http://www.mpers.org)





# Table of Contents

## Introductory Section

Certificate of Achievement for Excellence in Financial Reporting .....	viii
Public Pension Coordinating Council (PPCC) Award.....	ix
Letter of Transmittal.....	x
Board of Trustees.....	xiv
Administrative Organization .....	xv
Professional Services .....	xviii

## Financial Section

Independent Auditors' Report .....	1
Management's Discussion and Analysis .....	2
Basic Financial Statements	
Statements of Plan Net Assets.....	6
Statements of Changes in Plan Net Assets .....	7
Notes to the Financial Statements.....	8
Required Supplementary Information	
Schedule of Funding Progress .....	22
Schedule of Employer Contributions .....	22
Notes to the Schedules of Trend Information .....	22
Other Post-Employment Benefit (OPEB) Plan Schedule of Funding Progress for MoDOT and MSHP Medical and Life Insurance Plan.....	23
Notes to the Schedule of Trend Information - OPEB.....	23
Supplementary Information	
Schedules of Administrative Expenses .....	24
Schedules of Investment Expenses .....	25
Schedules of Consultant and Professional Expenses.....	26

## Investment Section

Chief Investment Officer Report .....	29
Investment Consultant Report .....	30
Investment Activity Overview .....	31
Summary of Investment Policy.....	31
Market Value of Investments.....	31
Investment Performance .....	31
Asset Allocation Overview .....	32
Investment Summary.....	34
Largest Investment Holdings.....	35
Schedule of Investment Expenses.....	36
Schedule of Brokerage Commissions .....	37

# Table of Contents

## Actuarial Section

Actuary's Certification Letter.....	39
Summary of Actuarial Methods and Assumptions .....	41
Summary of Member Data Included in Valuations .....	46
Active Members by Attained Age and Years of Service .....	47
Schedule of Active Member Valuation Data.....	50
Solvency Test.....	51
Derivation of Financial Experience .....	52
Schedule of Retirees and Beneficiaries Added and Removed .....	53
Summary of Plan Provisions .....	54
Legislative Changes .....	55

## Statistical Section

Statistical Summary .....	57
Changes in Net Assets.....	58
Benefit Payments by Type.....	59
Schedule of Retired Members by Type of Benefit.....	60
Schedule of Average Monthly Benefit Payments.....	62
Active Member Data.....	65
Terminated Vested Member Data .....	68
Benefit Recipients .....	70
Membership Distribution .....	70
Average Years of Service for New Retirees .....	71
Final Average Pay for New Retirees.....	71
Location of MPERS Retirees .....	72

# Notes





*Many economists consider the market downturn of 2007-2008 to be the worst financial storm since the Great Depression. Although the losses from the downturn were substantial, they are part of the cyclical nature of the market. As long-term investors, we are able to look past these short-term events to find the latest investment opportunities created by market dislocations.*

*MPERS made a number of changes in response to the financial downturn, and we are pleased to report successes. With the input of our staff and consultants, MPERS' Board of Trustees reviewed the key components of the System, from the benefit structure to the investment portfolio, to ensure that our policies are built on best practices. The result is a System that is better prepared to weather the storm presented by volatile markets, and yet, is well positioned to participate in the corresponding recovery. The initial results are encouraging, as MPERS has recovered 63% of the losses incurred in fiscal years 2008 and 2009. While it could take several years to fully recoup these losses, you can be assured that MPERS is prudently invested for the long term. The Board of Trustees and the staff are committed to paying the benefits owed by the trust fund, today and in the future.*

# Introductory Section

# Certificate of Achievement for Excellence in Financial Reporting

## Certificate of Achievement for Excellence in Financial Reporting

Presented to

Missouri Department of  
Transportation and Highway Patrol  
Employees' Retirement System

For its Comprehensive Annual  
Financial Report  
for the Fiscal Year Ended  
June 30, 2009

A Certificate of Achievement for Excellence in Financial  
Reporting is presented by the Government Finance Officers  
Association of the United States and Canada to  
government units and public employee retirement  
systems whose comprehensive annual financial  
reports (CAFRs) achieve the highest  
standards in government accounting  
and financial reporting.



President

Executive Director

# Public Pension Coordinating Council Award



Public Pension Coordinating Council

***Public Pension Standards Award  
For Funding and Administration  
2009***

Presented to

***Missouri Department of Transportation &  
Highway Patrol Employees' Retirement System***

In recognition of meeting professional standards for  
plan funding and administration as  
set forth in the Public Pension Standards.

*Presented by the Public Pension Coordinating Council, a confederation of*

National Association of State Retirement Administrators (NASRA)  
National Conference on Public Employee Retirement Systems (NCPERS)  
National Council on Teacher Retirement (NCTR)

Alan H. Winkle  
Program Administrator



# Letter of Transmittal

Susie Dahl  
Executive Director



MoDOT & Patrol  
Employees' Retirement System

Pam Henry  
Assistant Executive Director

November 10, 2010

To the Board of Trustees and System Members:

We are pleased to provide this Comprehensive Annual Financial Report (CAFR), of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (MPERS), for the fiscal year ended June 30, 2010. This report is intended to provide MPERS' stakeholders with a thorough review of the System's operations for the past fiscal year. The material presented in this report has been prepared in a manner intended to be useful and informative to MPERS' members, the management of the Missouri Department of Transportation (MoDOT), the Missouri State Highway Patrol (MSHP), and the elected officials of the State of Missouri.

We've all heard the phrase, "what a difference a year makes". When the fiscal year 2009 report was released, the global economy was struggling to recover from a near collapse. These world events were reflected in MPERS' fiscal year 2009 investment loss of -24.7%. One year later, stability has returned to the financial markets. Federal Government stimulus programs provided needed liquidity to the markets and equity markets around the globe rebounded. As the economy found its footing, MPERS' investment portfolio responded with a positive 12.9% return for fiscal year 2010.

Public pension plans invest assets with a long-term perspective because pension costs are spread over the working careers of employees in the plan. As long-term investors, we are able to look beyond these short-term event-driven market declines. By maintaining a sound investment policy and a disciplined approach to investment management, over time, our System will recover the losses incurred in fiscal year 2009. MPERS' fiscal year 2010 performance demonstrates our resiliency to "Weather the Storm".

## **Report Contents and Structure:**

This CAFR is designed to comply with the statutory reporting requirements stipulated in Sections 104.190, 104.1006, and 105.661 of the Revised Statutes of Missouri (RSMo), as amended.

To the best of our knowledge and belief, the information presented is accurate in all material respects and is reported in a manner designed to fairly present the financial position of the fund. Some amounts included in the financial statements and elsewhere may be based on estimates and judgments. These estimates and judgments are products of the best business practices available. The accounting policies followed in preparing the basic financial statements conform with U.S. generally accepted accounting principles. Financial information presented throughout the CAFR is consistent with information displayed in the basic financial statements.

The MPERS Board of Trustees is ultimately responsible for the CAFR and the basic financial statements. MPERS' Executive Director and staff prepare the information contained in the CAFR and the financial statements to assist the Board in fulfilling their statutory duty.

Systems of internal controls and supporting procedures are maintained to provide assurances that transactions are authorized, assets are safeguarded, and proper records are maintained. These controls include standards in the hiring and training of employees, the establishment of an organizational structure, and the communication of policies and guidelines throughout the organization.

In accordance with Section 104.190, RSMo, as amended, an independent auditing firm, Williams-Keepers, LLC, audited the financial statements included in this report and issued an unqualified opinion (meaning no audit findings on MPERS' financial statements). Their opinion letter is presented in the Financial Section of this

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Office Location: 1913 William St., Jefferson City, MO 65109 • Mailing Address: Post Office Box 1930, Jefferson City, MO 65102-1930

Telephone Number: (573) 298-6080 • Toll Free: 1-800-270-1271 • Admin. Fax: (573) 526-5895 • Benefits Fax: (573) 522-6111

Website: [www.mpers.org](http://www.mpers.org) • E-Mail: [mpers@modot.mo.gov](mailto:mpers@modot.mo.gov)

# Letter of Transmittal

CAFR. Management's Discussion and Analysis (MD & A) immediately follows the Independent Auditors' Report and provides a narrative introduction, overview, and analysis of the basic financial statements. Management's Discussion and Analysis complements this letter of transmittal.

## **Background Information:**

MPERS was established by Senate Bill 66. Under this legislation, employees of MoDOT and the Highway Patrol became members of the retirement system on September 1, 1955. Effective October 1, 1955, the System accepted 109 retirements.

The plan provisions have changed many times over the years. The System offers not only enhanced retirement and disability benefits, but also benefits for survivors of active and retired members, benefits for qualified terminated-vested members, and death benefits. Beginning January 1, 2011, new employees hired for the first time in a benefit eligible position, will be required to contribute 4% of pay to help fund the cost of their MPERS benefits.

An eleven-member Board of Trustees is responsible for the oversight of MPERS. The Trustees serve as fiduciaries to the members and are responsible for selecting and retaining competent management, establishing sound policies and objectives, monitoring operations for compliance, and overseeing performance.

As an instrumentality of the state, MPERS is considered a component unit of the State of Missouri for financial reporting purposes and, as such, the financial statements in this report are also included in the State of Missouri's Comprehensive Annual Financial Report.

## **Fiscal Year 2010 Highlights:**

The implementation of pension reform legislation and moving into the final phase of our multi-year technology project were at the forefront of activity for fiscal year 2010.

In late June, Governor Nixon called a Special Session and HB 1 was passed. This legislation adds a new contributory tier to our current Year 2000 Plan. This new "2011 Tier" affects only employees hired for the first time, in a benefit eligible position, on or after January 1, 2011. Some of the notable changes in the 2011 Tier include: (1) employees contributing 4% of pay for retirement benefits, (2) vesting moving from 5 to 10 years of creditable service, and (3) "Rule of 80" increasing to "Rule of 90". For members not eligible under the "Rule of 90", normal retirement age is 67. The provisions for BackDROP and subsidized service purchases are not available in the 2011 Tier.

During the 2010 Regular Session, House Bill 1868 was enacted creating a Division of Water Patrol within the Missouri State Highway Patrol effective January 1, 2011. Water Patrol employees currently employed within the Department of Public Safety will have the option of transferring their service and membership from the Missouri State Employees' Retirement System (MOSERS) to MPERS. For each employee electing to transfer his/her membership and creditable service, MOSERS will pay MPERS, by June 30, 2011, an amount actuarially determined to equal the liability at the time of the transfer. Membership for those electing to transfer to MPERS will begin July 1, 2011.

This year, MPERS moved into the final phase of our technology project (initiated in 2007). The first two phases, a new accounting system and document imaging system, are complete and operational. The final phase, the new pension administration system, went live in January 2010. At that time, we started running parallel with our old legacy system. This gave us an opportunity to verify the accuracy of converted member information and finalize design issues. In April of 2010, the old legacy system was terminated and the first benefit payments were paid from the new pension administration system at the end of May. We are currently in a warranty period, with the vendor correcting remaining programming issues. In addition, we are working with the vendor to make program modifications required to implement the new 2011 Tier.

One of the most anticipated features of the new system is an online member self-service portal. This feature allows members to update personal information online, submit electronic forms, view service history, prepare benefit estimates, and check their monthly benefit payment information. The new online feature was rolled out with our redesigned website in September. Within the first week, over 500 members went online to create their personal account. The portal also allows members to manage password changes or reset their passwords.

# Letter of Transmittal

Minimizing risk and the potential for loss is a critical component of managing a retirement system. This year the Board reviewed its executive risk program and made changes to minimize the potential for loss to the System. For the first time, the Board purchased an insurance policy that included directors and officers insurance, employment practices liability insurance, and fiduciary insurance.

The Board's newly established Audit Committee contracted for an internal assessment of the System's information technology controls. The recommendation from this assessment were reported to the Board in November and reflected in the System's Strategic and Business Plan adopted in November.

Finally, to minimize the risk of service interruptions to the System, the Board authorized the installation of a back-up power generator and a fiber optic cable connection to our Jefferson City facility. The back-up power generator will ensure that during an electrical power outage that MPERS can continue to operate and serve our members. The fiber optic cable replaces a wireless device that connects MPERS to the MoDOT and State data networks. The in-ground connection is a faster more reliable way to access the data networks that MPERS uses to process our member data.

## **Actuarial Funding Status:**

The funding objective of MPERS is to meet future benefit obligations of retirees and beneficiaries through contributions and investment earnings. All funding from MoDOT and approximately 90% of funding from the MSHP come from the State Highway and Transportation Fund. The remaining 10% of funding for the MSHP comes from state general revenue. Although Missouri, like most of the country, is facing tough economic times, our employers continue to provide the contributions required to appropriately fund the System.

During the year ended June 30, 2010, the funded ratio of MPERS, which covers 17,829 participants, decreased from 47.3% to 42.2%. The decrease reflects investment losses from 2008 and 2009 and the investment gain in 2010. For actuarial and funding purposes, investment losses and gains are recognized over a three-year period so that required contributions are less volatile.

Each year an independent actuarial firm conducts a valuation to determine the actuarial soundness of the plan, based on its long-term obligations and the sufficiency of current contribution levels to fund the liabilities over a reasonable time frame. In our most recent valuation, dated June 30, 2010, our actuary concluded that the System continues to be financed in accordance with actuarial principles of level percent of payroll financing. This statement is based upon the fact that the employers are contributing to the System based upon actuarially determined rates and presumes a continuation of payment of actuarially determined contributions. Additional information regarding the financial condition of the System can be found in the Actuarial Section of this report.

In an effort to address the System's under funding situation, in September 2006, the Board of Trustees adopted a permanent funding policy that was intended to improve MPERS' funded status over time.

The permanent funding policy provided:

- The total contribution is based on the plan's normal cost plus a 29 year amortization period for MPERS' unfunded liabilities. The financing period is a closed period starting July 1, 2007.
- On September 17, 2009, after the market downturn, the Board of Trustees adopted the following temporary funding policy:
  - The total contribution is based on the plan's normal cost plus a 15-year amortization period for unfunded retiree liabilities and a 30-year amortization period for other unfunded liabilities. Both amortizations periods are closed periods starting July 1, 2010.
  - The temporary accelerated policy will remain in effect until such time as the retiree liability becomes 100% funded or the permanent policy produces a higher contribution rate.

## **Investment Activities:**

State statutes require the System to make investments using the same care, skill, and diligence that a prudent person acting in a similar capacity would use. In fulfilling this obligation, the Board of Trustees has established a formal investment policy to clearly define the roles and responsibilities of the Board, staff and consultants, and to ensure that System assets are invested in a diversified portfolio following prudent investment standards. The Board of Trustees determines the broad asset allocation policies and return objectives of the plan, and retains investment staff, consultants, a master custodian and other advisors to implement and execute these policies.



# Letter of Transmittal

As of June 30, 2010, MPERS' investment portfolio had a total market value of \$1.3 billion representing a return of 12.9 % for the fiscal year. During the course of the year, MPERS' Board of Trustees completed a review of the current asset allocation to ensure the strategies being utilized are appropriate relative to the System's return objectives and tolerance for risk. With the help of outside consultants, each and every facet of the asset allocation process was reviewed and a number of changes were approved going forward. The Investment Section contains additional information on the asset allocation changes (as well as MPERS' investment performance). As we move forward with implementing the asset allocation, the primary focus will be to gradually shift assets away from publicly traded stocks and increase exposures to traditional fixed income, real estate, and private equity structures.

## **Awards:**

The Government Finance Officer Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to MPERS for its FY2009 CAFR. This was the fifth consecutive year that MPERS has achieved this prestigious award. The Certificate of Achievement is the highest form of recognition for excellence in state and local government financial reporting. To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year. We believe that our current CAFR continues to meet the program's requirements, and therefore we are submitting this report to GFOA to determine its eligibility for another certificate.

MPERS also received the Public Pension Coordinating Council (PPCC), Public Pension Standards Award, in recognition of meeting professional standards for plan design and administration. This is the sixth consecutive year MPERS received the council's award. This award is presented by the PPCC, a confederation of the National Association of State Retirement Administrators (NASRA), the National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR).

## **Acknowledgements and Distribution:**

This report, prepared by the MPERS Executive Director and staff, is intended to provide comprehensive and reliable information about the System, to demonstrate compliance with legal provisions, and to allow for the evaluation of responsible stewardship of the System's funds.

Copies of this report are provided to the Governor, the State Auditor, and the Joint Committee on Public Employee Retirement. It is also distributed to all MoDOT divisions, district offices, Highway Patrol general headquarters, and troop headquarters. These offices form the link between MPERS and its members, and their cooperation contributes significantly to the success of MPERS.

We hope all readers of this report find it informative and useful. Additional copies will be furnished upon request. An electronic version of this report is available on the MPERS website at [www.mpers.org](http://www.mpers.org).

We express our gratitude to the members of the Board, the staff, the consultants, and the many people who have worked so diligently to ensure the continued successful operation of MPERS. Together we are confident we can "Weather the Storm".

Respectfully submitted,



Susie Dahl  
Executive Director



Roger Stottlemire  
Board Chairman

# Board of Trustees

MPERS is governed by a Board of Trustees. As set out in Section 104.160 of the Revised Statutes of Missouri (RSMo), the Board is comprised of eleven members:



**Roger Stottlemyre**  
Board Chair  
MSHP Retiree Representative  
Elected by Retired  
Members of MSHP  
Term expires 7-1-2010



**Sue Cox**  
Board Vice Chair  
MoDOT Employees'  
Representative  
Elected by MoDOT Employees  
Term Expires 7-1-2010



**Lloyd 'Joe' Carmichael**  
Commission Member  
Highways & Transportation  
Commissioner  
Term Expires 3-1-2015



**Rudolph E. Farber**  
Commission Member  
Highways & Transportation  
Commissioner  
Term Expires 3-1-2013



**Senator John Griesheimer**  
State Senator  
District 26  
Appointed by  
President Pro-Tem of the Senate



**Kevin Keith**  
Director of the Missouri  
Department of  
Transportation  
Ex-Officio Member



**Colonel Ron Replogle**  
Superintendent of the  
Missouri State  
Highway Patrol  
Ex-Officio Member



**Representative Charlie Schlottach**  
State Representative  
District 111  
Appointed by the  
Speaker of the House



**Bob Sfreddo**  
MoDOT Retiree  
Representative  
Elected by Retired  
Members of MoDOT  
Term Expires 7-1-2010



**Captain Juan Villanueva**  
MSHP Employees'  
Representative  
Elected by MSHP Employees  
Term Expires 7-1-2010

**Vacant**  
Commission Member  
Highways & Transportation  
Commissioner



# Administrative Organization



## **Susie Dahl – Executive Director**

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Keith Thornburg – General Counsel

Jennifer Even – Senior Financial Officer

Lois Wankum – Executive Assistant

Leigh Love – Office Assistant



## **Pam Henry – Assistant Executive Director**

---

Mariel Hale – Senior Benefit Specialist

Mary Jordan – Senior Benefit Specialist

Bev Wilson – Senior Benefit Specialist

Angel Backes – Intermediate Account Technician

Julie Berhorst – Intermediate Account Technician



## **Larry Krummen – Chief Investment Officer**

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Jennifer Johnson – Senior Investment Officer

Our Mission is to provide a foundation for financial security to plan participants by delivering quality benefits and exceptional member service through professional plan administration and prudent management of assets, at a reasonable cost to the taxpayers of Missouri.

# Administrative Organization

## **Director's Office**

The Director's Office staff provides administrative oversight and support in the areas of legislation, operations, benefits, and investments.

## **Financial Services**

The Financial Services section is responsible for maintaining all the financial records of MPERS. The senior financial officer (accountant) interacts with the investment custodian, the auditors, the depository bank, Missouri's Department of Revenue, and the Internal Revenue Service. In addition, the accountant assists the chief investment officer in tracking and predicting target cash balances, participates in annual budget development, prepares monthly budget-to-actual reports, and calculates monthly premium payments to the long-term disability insurer. The accountant also processes MPERS' semi-monthly office payrolls, reconciles monthly benefit payments and contributions/payrolls posted, and reconciles investment activity.

## **Investments**

The Investments section works closely with the general investment consultant to oversee the investment portfolio and provide consulting services to the Board and the executive director. This includes, but is not limited to: (a) formulating investment policy and asset recommendations, (b) providing recommendations on the selection, (c) monitoring and evaluating external investment advisors, (d) measuring and reporting on investment performance, (e) conducting market research on political, financial, and economic developments that may affect the System, and (f) serving as a liaison to the investment community.

## **Legal Services**

The Legal Services section advises the executive director and Board on legal matters, reviews and approves investment and other contracts for MPERS, advises staff on the application of state and federal statutes affecting the administration of plan benefits, responds to requests from members and their attorneys related to plan benefits, engages in or oversees litigation affecting MPERS, and assists in developing policies, rules, and legislation impacting MPERS' operations and the administration of plan benefits.

## **Member Services**

The Member Services section consists of two units devoted to serving member needs.

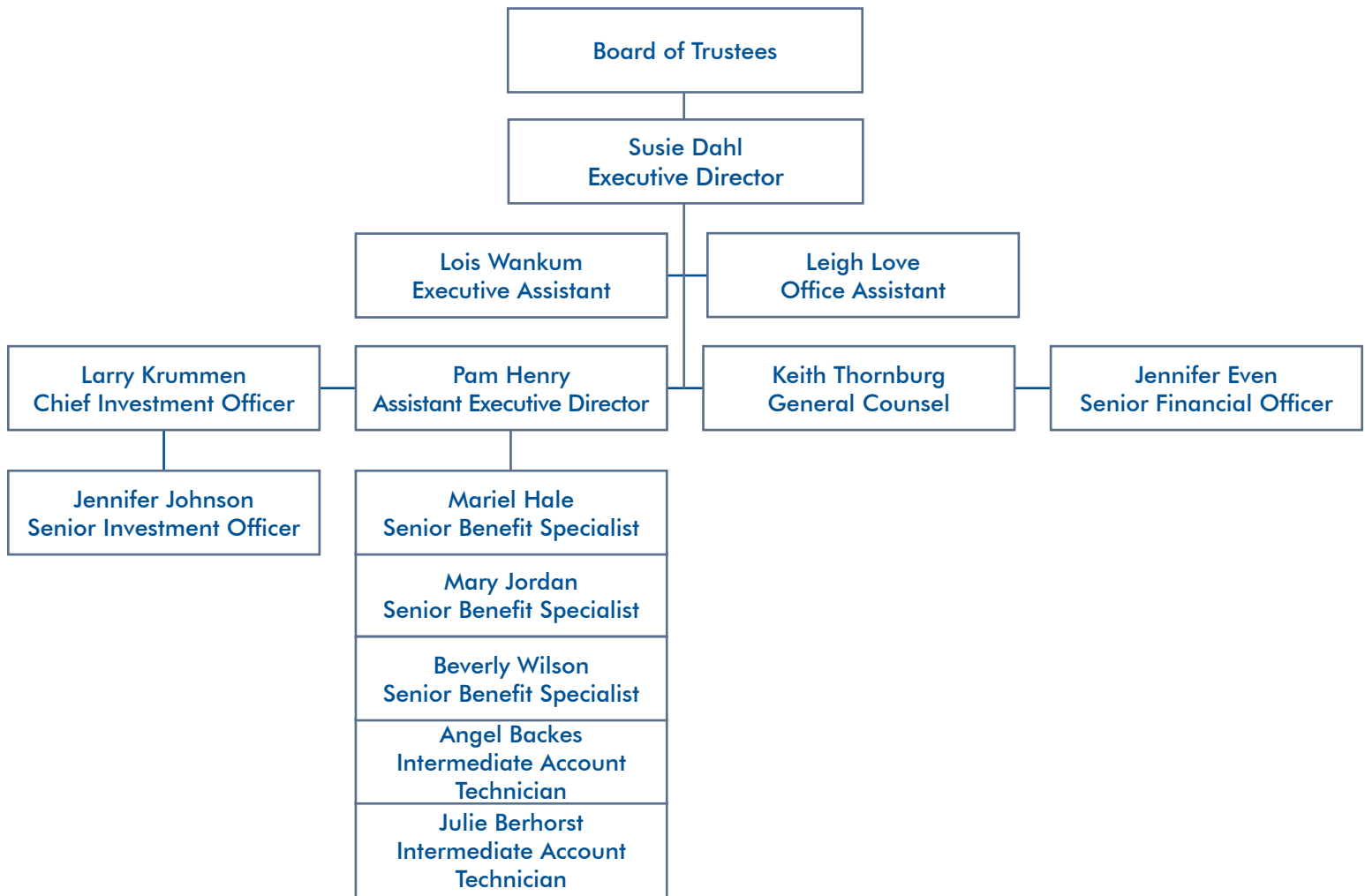
The Benefits unit is responsible for contact with the membership regarding the benefit programs administered by MPERS, which include retirement and disability. The benefits staff is responsible for preparing and delivering the pre-retirement and benefit basics seminars in addition to assisting with the development of member communication material.

The Payroll unit is responsible for establishing and maintaining all membership records including:

- (a) maintaining member data on the retirement master,
- (b) verifying retirement calculations, (c) balancing payroll deductions, (d) verifying SAM II data against exception reports, and (e) entering payroll, service, and leave data into the System's computerized database.

# Administrative Organization

The executive director of MPERS has charge of the offices and records of the System and hires such employees deemed necessary, subject to the approval of the Board of Trustees. The System employs thirteen full-time staff.





# Professional Services

The following firms were retained at fiscal year-end by the Board of Trustees to serve in professional capacities or provide consultant services. Please refer to pages 36 and 37 in the Investment Section for the Schedule of Investment Expenses and Brokerage Commissions for the investment professionals.

## **Actuary**

Gabriel, Roeder, Smith & Company  
Southfield, Michigan

## **Legislative Consultant**

Michael G. Winter Consultants, LLC  
Jefferson City, Missouri

## **Auditor**

Williams-Keepers, LLC  
Jefferson City, Missouri

## **Master Trustee/Custodian**

The Northern Trust Company  
Chicago, Illinois

## **Business Consultant**

MAXIMUS  
Waltham, Massachusetts

## **Risk Management/Insurance Consultant**

Charlesworth Benefits  
Overland Park, Kansas

The Standard Insurance Company  
Portland, Oregon

## **Investment Consultant**

Summit Strategies Group  
St. Louis, Missouri

## **Governance Consultant**

Cortex Applied Research Inc.  
Toronto Ontario

# Professional Services (continued)

## Investment Managers

Aberdeen Asset Management.....	Philadelphia, Pennsylvania
ABRY Partners .....	Boston, Massachusetts
Acadian Asset Management .....	Boston, Massachusetts
AEW Partners .....	Boston, Massachusetts
Albourne America .....	San Francisco, California
Algert Coldiron Investments (ACI) .....	San Francisco, California
American Infrastructure MLP.....	Foster City, California
Apollo Real Estate .....	New York, New York
AQR Capital Management .....	Greenwich, Connecticut
Artio Global Investors.....	New York, New York
Audax Group .....	Boston, Massachusetts
Barclays Global Investors .....	San Francisco, California
Black River .....	Minnetonka, Minnesota
Brevan Howard .....	New York, New York
Bridgewater Associates.....	Westport, Connecticut
CBRE Investors .....	Baltimore, Maryland
Colony Capital.....	Los Angeles, California
Concordia.....	New York, New York
CQS Management .....	London England
CarVal Investors (CVI) .....	Minnetonka, Minnesota
Deephaven Capital Management .....	Minnetonka, Minnesota
EIF Management.....	Needham, Massachusetts
Enhanced Investment Technologies (INTECH).....	Palm Beach Gardens, Florida
GMO .....	Boston, Massachusetts
Grove Street Advisors.....	Wellesley, Massachusetts
GSO Capital Partners.....	New York, New York
ING Clarion.....	New York, New York
Luxor Capital .....	New York, New York
Natural Gas Partners.....	Houston, Texas
Och-Ziff Real Estate .....	New York, New York
Ospraie Management .....	New York, New York
Paulson and Co. ....	New York, New York
Pinnacle Associates .....	New York, New York
Principal Global Investors .....	Des Moines, Iowa
RMK Timberland .....	Winston-Salem, North Carolina
Rothschild Asset Management .....	New York, New York
Silchester International Investors Limited .....	New York, New York
Stark Investments (Sheperd) .....	Milwaukee, Wisconsin
Structured Portfolio Management (SPM).....	Stamford, Connecticut
Taconic Capital Advisors.....	New York, New York
The Clifton Group .....	Edina, Minnesota
The Northern Trust Company .....	Chicago, Illinois
Urdang .....	Plymouth Meeting, Pennsylvania
Vectis Healthcare .....	Boston, Massachusetts
Vicis Capital.....	New York, New York
Western Asset Management Company .....	Pasadena, California

# Notes



*The state of the economy has forced pension plans nationwide to review benefits and analyze the cost and sustainability of their systems. As a result, many systems have considered pension reform legislation. Missouri acted promptly during a special legislative session called by the Governor in 2010. A new benefit tier was created for state employees hired for the first time on or after January 1, 2011. Members of the new "2011 Tier" will pay a 4 % contribution each month, work 10 years to become vested, and retire at a later age. Changes to the benefit structure and requiring new employees to share in the cost of funding their retirement benefit, improves our System's financial position while reducing the cost burden to our employers and to Missouri taxpayers.*

# Financial Section

# Independent Auditors' Report



CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

2005 West Broadway, Suite 100, Columbia, MO 65203  
OFFICE (573) 442-6171 FAX (573) 777-7800

3220 West Edgewood, Suite E, Jefferson City, MO 65109  
OFFICE (573) 635-6196 FAX (573) 644-7240

[www.williamskeepers.com](http://www.williamskeepers.com)

## INDEPENDENT AUDITORS' REPORT

The Board of Trustees  
Missouri Department of Transportation and  
Highway Patrol Employees' Retirement System

We have audited the accompanying statements of plan net assets of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System) as of June 30, 2010 and 2009, and the related statements of changes in plan net assets for the years then ended. These financial statements are the responsibility of the System's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with U.S. generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the plan net assets of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System at June 30, 2010 and 2009, and the changes in plan net assets for the years then ended, in conformity with U.S. generally accepted accounting principles.

The management's discussion and analysis and the schedules of funding progress and employer contributions are not a required part of the basic financial statements but are supplementary information required by the Governmental Accounting Standards Board. The required supplementary information is the responsibility of management of the System. Limited procedures were applied by other auditors to the required supplemental information for the year ended June 30, 2005. We have applied certain limited procedures, which consisted principally of inquiries of management regarding the methods of measurement and presentation of the required supplementary information, for the years ended June 30, 2010, 2009, 2008, 2007 and 2006. However, we did not audit the information and express no opinion on it.

Our audits were made for the purpose of forming an opinion on the financial statements taken as a whole. The supplementary information as listed within the Financial Section in the table of contents is presented for purposes of additional analysis and is not a required part of the basic financial statements of the System. Such information has been subjected to the auditing procedures applied in the audits of the financial statements and, in our opinion, is fairly stated in all material respects in relation to the financial statements taken as a whole.

The Introductory, Investment, Actuarial, and Statistical Sections have not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we express no opinion on them.

November 10, 2010

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# Management's Discussion and Analysis

The management of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (the System, or MPERS) provides this discussion and analysis of the System's financial performance for the fiscal years ended June 30, 2010 and 2009. While this discussion is intended to summarize the financial status of MPERS, readers should consider this information in conjunction with the information that is furnished in the more detailed financial statements and corresponding notes.

## DESCRIPTION OF BASIC FINANCIAL STATEMENTS

As required by the Governmental Accounting Standards Board (GASB) accounting standards, this financial report consists of Management's Discussion and Analysis (this section), the basic financial statements (including notes to the basic financial statements), and other required supplementary information.

Financial Statements report information about MPERS, using accounting methods similar to those used by private-sector companies, by using the economic resources measurement focus and accrual basis of accounting. These statements provide both long-term and short-term information about the System's overall financial status. These statements follow this Management's Discussion and Analysis section:

- The Statement of Plan Net Assets includes all the System's assets and liabilities, with the difference between the two reported as net assets.
- The Statement of Changes in Plan Net Assets accounts for all the current year's additions (income) and deductions (expenses), regardless of when cash is received or paid.

**Notes to the Financial Statements** are included following the financial statements. The notes to the financial statements provide additional information that is essential for a full understanding of the data provided in the financial statements.

**Required Supplementary Information** follows the notes and further supports the information in the financial statements.

## ANALYSIS OF FINANCIAL POSITION AND RESULTS OF OPERATIONS

Overall, the financial position of MPERS improved by \$91.6 million, reported as the "change in net assets." This is primarily a result of net appreciation in the fair value of investments for the year ended June 30, 2010. Even with this net increase in value in FY10, the funded status of the plan showed a decrease of 5.04%, due to the deferred recognition for actuarial purposes of the investment losses incurred in the two prior years.

The following schedules present summarized comparative data from the System's financial statements for the fiscal years ended June 30, 2010, 2009, and 2008. Following each schedule is a brief summary providing explanation and analyses of the major reasons for changes in the condensed financial statements.

# Management's Discussion and Analysis

## Summarized Comparative Statements of Plan Net Assets

	As of June 30, 2010	As of June 30, 2009	As of June 30, 2008	% Change 2010/2009	% Change 2009/2008
Cash and Receivables	\$ 90,675,162	\$ 9,940,482	\$ 39,325,100	812%	-75%
Investments	1,299,366,338	1,219,197,339	1,685,749,748	7%	-28%
Invested Securities					
Lending Collateral	44,655,544	53,502,879	61,380,123	-17%	-13%
Capital Assets	3,276,526	1,659,247	1,577,452	97%	5%
Other Assets	5,155	8,535	7,889	-40%	8%
<b>Total Assets</b>	<b>1,437,978,725</b>	<b>1,284,308,482</b>	<b>1,788,040,312</b>	<b>12%</b>	<b>-28%</b>
Accounts Payable	78,491,744	8,299,374	7,889,473	846%	5%
OPEB Obligation	276,548	182,305	94,440	52%	93%
Securities Lending Collateral	45,986,723	54,692,943	61,380,123	-16%	-11%
Long-Term Debt/Payable	506,400	0	1,226	100%	-100%
<b>Total Liabilities</b>	<b>125,261,415</b>	<b>63,174,622</b>	<b>69,365,262</b>	<b>98%</b>	<b>-9%</b>
<b>Total Net Assets</b>	<b>\$1,312,717,310</b>	<b>\$1,221,133,860</b>	<b>\$1,718,675,050</b>	<b>7%</b>	<b>-29%</b>

The increase in cash and receivables is primarily attributable to higher investment sales receivables as of June 30, 2010. Some fluctuations in this area are normal, based on investment activity. The System was also restructuring its investment portfolio to meet new target allocations. The decrease from FY08 to FY09 is primarily attributable to lower investment sales receivables which were normal fluctuations based on investment activity.

The System's investments represent the main component (90%) of total assets. These investments include holdings of stock, government-sponsored enterprises, bonds, mortgages, real estate, timber, securities lending collateral, limited partnerships, and other fixed income investments. The increase in fair value of investments as of June 30, 2010 is due to the more favorable market conditions experienced during FY10. The FY10 investment return was 12.91%. Market conditions in FY09 reflected a very unfavorable climate, as shown by the decrease from the fair value amount of June 30, 2008 to that of June 30, 2009. The FY09 investment return was -24.7%. Detailed information regarding MPERS' investment portfolio is included in the Investment Section of this report.

The increase in capital assets for FY10 can be attributed to the completion of the initial phase of the technology project MPERS has in progress. Costs associated with the project have been capitalized. All three modules of phase I of the project have been fully implemented and are now depreciable. The increase in capital assets from FY08 to FY09 is also due to the technology project.

The largest component of liabilities is securities lending collateral. This represents the amount owed for collateral to be returned as the result of securities lent. The decrease in securities lending collateral from FY09 to FY10 is primarily due to a reduction in the lendable securities as MPERS increased its exposure to alternative investments. The exposure to alternative investments also increased from FY08 to FY09, which is reflected in the decrease in securities lending collateral for that same time period. The corresponding securities lending collateral asset is valued at lower amounts at June 30, 2010 and 2009 due to the market value of the securities on loan being less than the par value. This is a residual effect of the liquidity crisis that was one aspect of the overall market downturn in FY09.

The large increase in accounts payable for FY10 is primarily attributable to larger investment purchases payables. Some fluctuations in this area are normal, based on investment activity. The System was also restructuring its investment portfolio to meet new target allocations. The increase from FY08 to FY09 is due to the normal fluctuations based on investment activity.

# Management's Discussion and Analysis

The increase in long-term debt/payable is due to the completion and capitalization of assets for the initial phase of the technology project. The entire amount of phase 1 of the project has been capitalized, but remaining payments for the project will be made over the next three years. The amount shown at June 30, 2010 represents the payment amounts for FY12 and FY13.

The OPEB obligation of \$276,548 at June 30, 2010, \$182,305 at June 30, 2009, and \$94,440 at June 30, 2008 represents a liability recorded pursuant to GASB Statement No. 45, which was implemented in FY08. This liability reflects the System's provision of postemployment health care benefits through its participation in the MoDOT and MSHP Medical and Life Insurance Plan. As allowed by the GASB, this reporting requirement is being implemented prospectively, as prior years' data is not available. This plan is an internal service fund of MoDOT; therefore, assets have not been set aside. With this, the increases from FY09 to FY10 and from FY08 to FY09 are expected.

The System's combined net assets were \$1.313 billion at June 30, 2010, a \$92 million increase from the \$1.221 billion at June 30, 2009. This increase is an offset to the decrease of the previous year, when net assets decreased \$498 million from the June 30, 2008 amount of \$1.719 billion to the June 30, 2009 amount of \$1.221 billion.

## **Summarized Comparative Statements of Changes in Plan Net Assets**

	<b>Year Ended June 30, 2010</b>	<b>Year Ended June 30, 2009</b>	<b>Year Ended June 30, 2008</b>	<b>% Change 2010/2009</b>	<b>% Change 2009/2008</b>
Contributions	\$ 124,476,706	\$ 123,043,301	\$ 124,527,678	1%	-1%
Net Investment Income (Loss)	166,307,054	(426,265,311)	(42,915,886)	-139%	893%
Other Income	33,145	33,571	31,546	-1%	6%
Net Additions (Loss)	290,816,905	(\$303,188,439)	81,643,338	-196%	-471%
Benefits	196,721,274	192,013,250	185,801,362	2%	3%
Administrative Expenses	2,512,181	2,339,501	2,371,215	7%	-1%
Total Deductions	199,233,455	194,352,751	188,172,577	3%	3%
Change in Net Assets	91,583,450	(\$497,541,190)	(\$106,529,239)	-118%	367%
Net Assets-Beginning	1,221,133,860	1,718,675,050	1,825,204,289	-29%	-6%
<b>Net Assets-Ending</b>	<b>\$1,312,717,310</b>	<b>\$1,221,133,860</b>	<b>\$1,718,675,050</b>	<b>7%</b>	<b>-29%</b>

The main component of the changes in contributions to MPERS is employer contributions. For FY10, the contribution rate for the non-uniformed Highway Patrol and MoDOT increased by .68% from the FY09 rate, therefore increasing the FY10 amount of employer contributions for that group from the FY09 amount. For FY09, the contribution rate for the Uniformed Highway Patrol decreased by 2.39% from the FY08 rate, therefore decreasing the FY09 amount of employer contributions for that group from the FY08 amount.

Net investment income (loss), a primary component of plan additions, resulted in income of \$166 million for FY10. This income is an offset to the FY09 loss of \$426 million. The income represents a 12.91% return for the fiscal year ended June 30, 2010 which trailed the policy benchmark, but was slightly above the median in the peer universe comparison. In comparison, the FY09 investment return was a -24.7%, which trailed the rate of return of both the policy benchmark and peer groups. Annual fluctuations within the broad investment markets are outside of the control of the System and are expected to fluctuate from year to year. The Board of Trustees has approved a diversified asset allocation that, over time, is expected to realize the assumed actuarial rate of investment return of 8.25%. Additional information regarding investments can be found in the *Investment Section* of this report.

# Management's Discussion and Analysis

Benefits increased primarily due to changes in benefit rolls for all of the years shown. Detailed schedules of changes can be found in the *Actuarial Section* of this report.

## CURRENTLY KNOWN FACTS AND RECENT EVENTS

Based on the June 30, 2009 actuarial valuation, the Board of Trustees approved a change in the required state contribution, effective July 1, 2010. The rate applied to non-uniformed payroll (MoDOT, civilian patrol, and MPERS) will increase from 31.40% to 39.46%. The rate applied to uniformed patrol payroll will increase from 39.95% to 49.53%. This increase is a reflection of the unfavorable investment returns in FY09 and FY08.

Based on the June 30, 2010 actuarial valuation, the Board of Trustees approved an increase in the required state contribution, effective July 1, 2011. The rate applied to non-uniformed payroll (MoDOT, civilian patrol, and MPERS) will increase from 39.46% to 45.45%. The rate applied to uniformed patrol payroll will increase from 49.53% to 58.63%. This increase is a residual effect of the unfavorable investment returns in FY09 and FY08.

## CONTACTING THE RETIREMENT SYSTEM'S MANAGEMENT

This financial report is designed to provide a general overview of the System's finances. Questions about this report or requests for additional financial information should be sent to:

MoDOT and Patrol Employees' Retirement System  
PO Box 1930  
Jefferson City, MO 65102-1930

# Statements of Plan Net Assets

As of June 30, 2010 and 2009

	2010	2009
<b>ASSETS:</b>		
Cash	\$ 210,007	\$ (37,805)
Receivables		
Contributions	4,966,134	5,121,789
Accrued Interest and Income	3,264,452	2,255,682
Investment Sales	82,216,889	2,576,661
Other	17,680	24,155
Total Receivables	90,465,155	9,978,287
Investments, at Fair Value		
Stocks and Rights/Warrants	418,603,323	424,420,149
Government Obligations	40,164,929	28,679,154
Corporate Bonds	28,512,411	28,950,524
Real Estate	106,116,740	117,777,908
Mortgages and Asset-Backed Securities	103,112,077	81,703,695
Absolute Return	162,936,098	198,823,009
Tactical Fixed Income	75,793,208	62,165,864
Short-Term Investments	119,818,077	88,936,234
Venture Capital & Partnerships	244,309,475	187,740,802
Total Investments	1,299,366,338	1,219,197,339
Invested Securities Lending Collateral	44,655,544	53,502,879
Prepaid Expenses	5,155	8,535
Capital Assets		
Land	84,000	84,000
Building	581,619	581,619
Furniture, Equipment and Software	3,053,494	1,318,357
Accumulated Depreciation	(442,587)	(324,729)
Net Capital Assets	3,276,526	1,659,247
<b>TOTAL ASSETS</b>	<b>1,437,978,725</b>	<b>1,284,308,482</b>
<b>LIABILITIES:</b>		
Long-Term Payable	506,400	-
Short-Term Payable	393,300	-
Accounts Payable	2,061,181	1,102,578
OPEB Obligation	276,548	182,305
Security Lending Collateral	45,986,723	54,692,943
Investment Purchases	76,037,263	7,196,796
<b>TOTAL LIABILITIES</b>	<b>125,261,415</b>	<b>63,174,622</b>
<b>NET ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>	<b>\$1,312,717,310</b>	<b>\$1,221,133,860</b>

See accompanying Notes to the Financial Statements.



# Statements of Changes in Plan Net Assets

For the Years Ended June 30, 2010 and 2009

	2010	2009
<b><u>ADDITIONS:</u></b>		
Contributions-Employer	\$ 124,052,534	\$ 122,599,301
Contributions-Other	424,172	444,000
Total Contributions	124,476,706	123,043,301
Investment Income from Investing Activities		
Net Appreciation (Depreciation) in Fair Value of Investments	163,585,646	(427,918,465)
Interest and Dividends	20,810,730	20,639,463
Less: Investment Expenses	(18,067,443)	(19,379,111)
Net Investment Income (Loss)	166,328,933	(426,658,113)
Income from Securities Lending Activities		
Security Lending Gross Income	169,460	701,752
Less: Securities Lending Expenses	(191,339)	(308,950)
Net Income (Loss) from Securities Lending Activities	(21,879)	392,802
Other Income	33,145	33,571
<b>NET ADDITIONS (LOSS)</b>	<b>290,816,905</b>	<b>(303,188,439)</b>
<b><u>DEDUCTIONS:</u></b>		
Monthly Benefits	196,721,274	192,013,250
Administrative Expenses	2,512,181	2,339,501
<b>TOTAL DEDUCTIONS</b>	<b>199,233,455</b>	<b>194,352,751</b>
NET INCREASE (DECREASE)	91,583,450	(497,541,190)
<b>NET ASSETS HELD IN TRUST FOR PENSION BENEFITS</b>		
Beginning of Year	<u>1,221,133,860</u>	<u>1,718,675,050</u>
End of Year	<u>\$1,312,717,310</u>	<u>\$1,221,133,860</u>

See accompanying Notes to the Financial Statements.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

As established under Section 104.020 of the Revised Statutes of Missouri (RSMo), the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (MPERS) is a body corporate and an instrumentality of the State of Missouri (State). Due to the nature of MPERS' reliance on funding from the Missouri Department of Transportation (MoDOT) and the Missouri State Highway Patrol (MSHP) and control of the overall plan document by the legislative and executive branches of state government, MPERS is considered a part of the State of Missouri financial reporting entity and is included in the State's financial reports as a component unit shown as a pension trust fund.

### **Note 1 (a) - Basis of Accounting**

The financial statements were prepared using the accrual basis of accounting. Contributions are due to MPERS when employee services have been performed and paid. Contributions are recognized as revenues when due, pursuant to statutory requirements. Benefits are recognized when due and payable and expenses are recorded when the corresponding obligations are incurred. Dividend income is recognized when dividends are declared. Interest income is recognized when earned.

### **Note 1 (b) - Method Used to Value Investments**

Investments are reported at fair value on a trade date basis. Bonds and stocks traded on a national or international exchange are valued at the reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate and timber

investments are based on net asset value estimates provided by the general partners' administrators or portfolio managers, which are compared to independent appraisals. Investments that do not have an established market are reported at estimated fair value. The fair value of the absolute return, venture capital and partnership portfolios are based on valuations of the underlying companies as reported by the general partner or portfolio manager.

### **Note 1 (c) - Capital Assets**

MPERS capitalizes assets with an expected useful life greater than one year and a cost greater than \$1,000. Capital assets are depreciated on the straight-line method over the estimated useful lives of the related assets. The estimated useful lives are as follows:

Furniture, Equipment and Software	5 – 10 years
Building and Improvements	30 years

### **Note 1 (d) - Use of Estimates**

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

## NOTE 2 – PLAN DESCRIPTIONS AND CONTRIBUTION INFORMATION

MPERS is a body corporate and an instrumentality of the state as a multiple-employer, public employee retirement system with one plan that has two benefit structures known as the Closed Plan and the Year 2000 Plan (see Note 13 for revisions to the plan subsequent to June 30, 2010). The plan provides retirement, survivor, and disability benefits for employees of MoDOT, MSHP, and MPERS' staff. The plan is administered in accordance with the requirements of a cost sharing, multiple-employer, public employee retirement plan under the Revised Statutes of Missouri. In MPERS are vested the powers and duties specified in sections 104.010 to 104.312, 104.601 to 104.805, and

104.1003 to 104.1093, RSMo., and such other powers as may be necessary or proper to enable it, its officers, employees, and agents to carry out fully and effectively all the purposes outlined pursuant to these sections. Responsibility for the operation and administration of the System is vested in the Board of Trustees. Detailed information regarding contributions can be found in Note 5.

Generally, all covered employees hired before July 1, 2000 are eligible for membership in the Closed Plan and all covered employees hired on or after July 1, 2000 are eligible for membership in the Year 2000 Plan.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Membership in the Closed and Year 2000 Plan as of June 30**

	<b>2010</b>		<b>2010</b>	<b>2009</b>
	<b>Closed</b>	<b>Year 2000</b>	<b>Total</b>	<b>Total</b>
Retirees, Beneficiaries, and Disabilities				
Currently Receiving Benefits	5,064	2,546	7,610	7,480
Terminated Employees Entitled to But Not Yet Receiving Benefits	1,589	210	1,799	1,737
Active Employees				
Vested	4,733	1,802	6,535	7,335
Non-Vested	0	1,885	1,885	1,478
<b>Total Membership</b>	<b>11,386</b>	<b>6,443</b>	<b>17,829</b>	<b>18,030</b>

### **Closed Plan Description**

Employees covered by the Closed Plan are fully vested for benefits upon receiving five years of creditable service. Under the Closed Plan, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 65 with 4 or more years of creditable service (active);
- Age 65 with 5 or more years of creditable service (terminated & vested);
- Age 60 with 15 or more years of creditable service (active or terminated & vested); or
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested).

The following provisions apply for uniformed patrol members of the Closed Plan:

- Age 55 with 4 or more years of creditable service (active);
- Age 55 with 5 or more years of creditable service (terminated & vested);
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active or terminated & vested); or
- Mandatory retirement at age 60 (active).

All non-uniformed members may retire early, with reduced benefits, at age 55 with at least 10 years of creditable service.

The base benefit in the Closed Plan is equal to 1.6% multiplied by the final average pay multiplied by years of creditable service. For members of the uniformed patrol, the base benefit is calculated by applying the same formula, then multiplying the product by 1.333333.

Retired uniformed members will receive an additional benefit of \$90 per month, plus cost-of-living adjustments

(COLAs), until attainment of age 65. This payment, however, is reduced by any amount earned during gainful employment. This benefit is not available to uniformed members hired after January 1, 1995.

For members employed prior to August 28, 1997, COLAs are provided annually based on 80% of the change in the consumer price index for all urban consumers for the United States (CPI-U). The minimum rate is 4% and the maximum rate is 5%, until the cumulative amount of COLAs equals 65% of the original benefit. Thereafter, the 4% minimum rate is eliminated and the annual COLA rate will be equal to 80% of the increase in the CPI-U (annual maximum of 5%). For members employed on or after August 28, 1997, COLAs are provided annually based on 80% of the increase in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that is available to eligible members upon retirement. This option provides for a benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (which contains no provision for survivorship) and the life income with 60 or 120 month guaranteed payment options are available to all members. Joint and 50% or 100% survivor options are available if married at the time of retirement. In the Closed Plan, the reduction for the joint & 100% survivor

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

option is based on the difference between the age of the member and the survivor. There is no reduction for the joint and 50% survivor option.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse as beneficiary if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has one year from the date of marriage to re-elect and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving normal or work-related disability benefits, on or after September 28, 1985, are provided a \$5,000 death benefit payable to designated beneficiaries.

## **Year 2000 Plan Description**

Employees covered by the Year 2000 Plan are fully vested for benefits upon earning five years of creditable service. Under the Year 2000 Plan, MoDOT and civilian employees may retire with full benefits upon the earliest of attaining:

- Age 62 and with 5 or more years of creditable service (active or terminated & vested);
- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active only).

The following provisions apply for uniformed patrol members of the Year 2000 Plan:

- "Rule of 80" – at least age 48 with sum of member's age and service equaling 80 or more (active only);
- Mandatory retirement at age 60 with 5 or more years of creditable service (active only).

All members may retire early with reduced benefits at age 57 with at least 5 years of creditable service.

The base benefit in the Year 2000 Plan is equal to 1.7% multiplied by the final average pay multiplied by years of creditable service. Members retiring under the Rule of 80, and uniform patrol members retiring at the mandatory retirement age (currently 60) with five years of creditable service, receive an additional temporary benefit until age 62. The temporary benefit is equivalent

to 0.8% multiplied by final average pay multiplied by years of creditable service.

COLAs are provided annually based on 80% of the change in the CPI-U, up to a maximum rate of 5%.

The BackDROP is a payment option that may be available to members upon retirement. This option provides for a monthly benefit to be calculated as if the member elected to retire at a previous date. If the BackDROP is elected, the monthly benefit payable on the actual retirement date is based on the benefit that would have been received by the member had he/she left employment and retired on the BackDROP date. In addition, the member will receive a lump sum payment equal to 90% of the life income annuity amount the member would have received during the BackDROP period. This lump sum amount includes any temporary benefits, COLAs and other benefit increases; also, credit will be received for the unused sick leave balance as of the date of retirement.

The life income annuity payment option (with no provision for survivorship) and the life income with 120 or 180 months guaranteed payment options are available to all members. Joint and 50% or 100% survivorship options are available if married at the time of retirement. The reduction for the joint and 50% or 100% survivor options is based on the member's age at retirement, as well as the age difference between the member and the survivor.

If a reduced joint and survivor option is chosen at the time of retirement and the spouse precedes the member in death, the benefit will revert back (pop-up) to a normal annuity.

Members may name a new spouse for survivor benefits if:

- They were single at retirement and since married;
- They elected a spouse option at the time of retirement, the spouse preceded the member in death, and then a remarriage occurred.

The member has one year from the date of marriage to re-elect the payment option and name a new spouse.

All members who retire from active employment or long-term disability, or begin receiving work-related disability benefits, on or after July 1, 2000, are provided a \$5,000 death benefit payable to designated beneficiaries.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Contributions**

Contributions are determined through annual actuarial valuations. Administrative expenses are financed through contributions from MoDOT, MSHP and MPERS, and investment earnings.

MoDOT, MSHP and MPERS are required to make all

contributions to the plan. Prior to August 13, 1976, contributions by members were required. Accumulated employee contributions made prior to that time, plus interest, were refunded to applicable members. Maximum contribution rates were eliminated August 13, 1976.

## **Schedule of Funded Status and Funding Progress**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Percent Funded (a/b)	Annual Covered Payroll (c)	UAAL Percentage of Covered Payroll ((b-a)/c)
6/30/2010	\$1,375,844,573	\$3,258,866,925	\$1,883,022,352	42.22%	\$378,063,006	498.07%

The schedules of funding progress, presented as required supplementary information (RSI) following the Notes to the Financial Statements, present multiyear trend information about whether the actuarial values

of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

## **Additional Information as of the June 30, 2010 Actuarial Valuation follows:**

Valuation Date	6/30/2010
Actuarial Cost Method	Entry Age
Amortization Method	Closed, Level Percent Closed
Remaining Amortization Period	22 years*
Asset Valuation Method	3-year Smoothed Market
Actuarial Assumptions:	
Investment Rate of Return	8.25%
Projected Salary Increases	3.75% to 12.25%
COLAs	2.6% Compound
Price Inflation	3.25%

\*single equivalent period



# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 3 – DEPOSITS AND INVESTMENTS

The Board of Trustees has established policies and procedures by which funds are invested by bank custodians and investment managers. Section 104.150, RSMo, provides the authority for the board to invest MPERS funds.

### **Note 3 (a) - Deposit and Investment Risk Policies**

#### ***Concentration of Credit Risk***

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. Unless authorized under a separate Investment Management Agreement, it is the policy of the System to limit each equity manager to investing a maximum of 5% of the market value of their portfolio in any single company and to limit fixed income managers to investing 3% of their portfolio into obligations of a single corporation. Fixed income obligations of the U.S. Government or U.S. Government agencies may be held in any amounts.

#### ***Investment Custodial Credit Risk***

Custodial credit risk is an investment risk in that, in the event of the failure of the counterparty to a transaction, the System will not be able to recover the value of its investment or the collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either: a) the counterparty or b) the counterparty's trust department or agent but not in the System's name. It is the policy of the System to require that all investments be clearly marked as to ownership and, to the extent possible, shall be registered in the name of the System.

#### ***Cash Deposit Custodial Credit Risk***

Cash deposit custodial credit risk is the risk that, in the event of the failure of depository financial institution, the System will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. Missouri State law requires that all public funds must be collateralized with acceptable securities having market values of at least 100% of the amount of funds on deposit (less any amount covered by FDIC insurance).

#### ***Market Risk***

Market risk is the risk that the fair value of a investment will be adversely impacted due to a change in value of the underlying market. The three primary market risks prevalent in the System's investment portfolio are equity prices, interest rates, and foreign currencies. Equity risk

is the risk that stock prices fall and/or the volatility in the equity market increases. Interest rate risk is the risk that fixed income securities (or any investment primarily valued on a yield basis) will drop in value due to an increase in interest rates. Currency risk is the risk that changes to foreign exchange rates will adversely impact the fair value of non-U.S. Dollar denominated assets. The System protects the portfolio against market risks by adopting a diversified asset allocation that limits the amount of exposure to each underlying market risk. Market risks are also controlled by monitoring the types, amounts, and degree of risk that each investment manager takes for their specific mandate.

#### ***Investment Credit Risk***

Investment credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Unless authorized under a separate Investment Management Agreement, it is the policy of the System to limit fixed income managers to purchasing securities that possess a minimum credit rating of "Baa" by Moody's and "BBB" by Standard & Poor's. Issues subsequently downgraded below these ratings must be brought to the attention of the Chief Investment Officer. Where counterparty risk is present, the System's investment managers seek to control credit risk through counterparty credit evaluations and approvals, counterparty credit limits and exposure monitoring procedures.

### **Note 3 (b) - Cash Deposits**

Cash balances include short-term securities held by the custodial bank to meet future obligations and operating balances held by the depository bank. As of June 30, 2010 and 2009, MPERS had carrying amount of deposits of (\$1,914,861) and (\$1,010,573), respectively, and a bank balance of \$16 and \$195, respectively. The FDIC covered the bank balances. To maximize investment income, cash is invested in overnight repurchase agreements, thus causing the negative cash amounts disclosed above. The balances in these repurchase agreements for 2010 and 2009 were \$2,124,868 and \$972,768 respectively. As of June 30, 2010 and 2009, no investments were held as repurchase agreements that were uninsured or unregistered, with securities held by the counterparty or by its trust department or agent but not in MPERS' name.

### **Note 3 (c) - Concentrations**

No investments in any one organization (other than those issued or sponsored by the U.S. government and those in pooled investments) represent 5% of plan net assets.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Note 3 (d) – Investments**

### **Summary of Investments by Type at June 30**

	2010		2009	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Government Obligations	\$ 36,620,086	\$ 40,164,929	\$ 28,430,454	\$ 28,679,154
Corporate Bonds	27,265,315	28,512,411	29,095,987	28,950,524
Stock and Rights/Warrants	453,260,769	418,603,323	547,597,353	424,420,149
Real Estate	127,889,920	106,116,740	125,386,480	117,777,908
Mortgages & Asset-Backed Securities	124,655,750	103,112,077	119,653,947	81,703,695
Absolute Return	142,890,806	162,936,098	200,635,359	198,823,009
Tactical Fixed Income	55,548,331	75,793,208	55,550,421	62,165,864
Venture Capital & Partnerships	287,232,156	244,309,475	236,917,341	187,740,802
Short-Term Investments	122,117,934	121,942,945	90,683,894	89,909,002
Securities Lending Collateral	44,655,544	44,655,544	53,502,879	53,502,879
<b>Total Investments</b>	<b>\$1,422,136,611</b>	<b>\$1,346,146,750</b>	<b>\$1,487,454,115</b>	<b>\$1,273,672,986</b>

### **Reconciliation to Statement of Plan Net Assets:**

Less: Repurchase Agreements	(2,124,868)	(972,768)
Less: Securities Lending Collateral	(44,655,544)	(53,502,879)
<b>Investments per Statement of Plan Net Assets</b>	<b>\$1,299,366,338</b>	<b>\$1,219,197,339</b>

### **Note 3 (e) – Investment Interest Rate Risk**

The following table summarizes the maturities of government obligations, corporate bonds, convertible

corporate bonds, mortgages, asset-backed securities, and tactical fixed income which are exposed to interest rate risk.

### **Summary of Weighted Average Maturities**

Investment Type	Fair Value	Investment Maturities (in years) as of 6/30/2010			
		Less than 1	1 - 5	6 - 10	More than 10
Asset-Backed Securities	\$ 3,273,778	\$0	\$ 967,261	\$ 996,962	\$ 1,309,555
Commercial Mortgage-Backed Securities	66,924,822	0	0	2,178,299	64,746,523
Corporate Bonds	28,512,411	0	10,003,293	11,246,232	7,262,886
Corporate Convertible Bonds	319,837	0	0	0	319,837
Government Agencies	762,967	0	762,967	0	0
Government Bonds	32,931,490	0	1,792,051	2,836,023	28,303,416
Government Mortgage-Backed Securities	32,913,477	0	0	1,263,251	31,650,226
Municipal/Provincial Bonds	6,470,472	0	0	1,048,040	5,422,432
<b>Total</b>	<b>172,109,254</b>	<b>\$0</b>	<b>\$13,525,572</b>	<b>\$19,568,807</b>	<b>\$139,014,875</b>
Pooled Investments	75,793,208				
<b>Grand Total</b>	<b>\$247,902,462</b>				

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Note 3 (f) – Investment Credit Ratings**

The following table summarizes the credit ratings of the government obligations, corporate bonds, mortgages and asset-backed securities, and tactical fixed income on the Statement of Plan Net Assets.

### **Summary of Credit Ratings**

<b>Investment Type</b>	<b>Quality Rating</b>	<b>6/30/2010 Fair Value</b>	<b>6/30/2009 Fair Value</b>
Asset-Backed Securities	A	\$ 734,935	\$ 283,412
Asset-Backed Securities	AA	95,090	0
Asset-Backed Securities	AAA	555,706	836,577
Asset-Backed Securities	BB-	232,310	0
Asset-Backed Securities	BBB+	313,625	0
Asset-Backed Securities	CC	341,600	0
Asset-Backed Securities	CCC	213,603	0
Asset-Backed Securities	not rated	786,909	423,498
Commercial Mortgage-Backed Securities	A-	4,380,711	439,729
Commercial Mortgage-Backed Securities	A	2,528,597	295,305
Commercial Mortgage-Backed Securities	A+	1,042,386	958,911
Commercial Mortgage-Backed Securities	AA-	1,610,822	589,581
Commercial Mortgage-Backed Securities	AA	641,893	5,283,682
Commercial Mortgage-Backed Securities	AA+	0	1,991,751
Commercial Mortgage-Backed Securities	AAA	9,525,406	30,232,450
Commercial Mortgage-Backed Securities	B	689,388	0
Commercial Mortgage-Backed Securities	B+	9,751,595	0
Commercial Mortgage-Backed Securities	BB-	2,509,580	0
Commercial Mortgage-Backed Securities	BB	7,005,644	894,322
Commercial Mortgage-Backed Securities	BB+	2,271,878	0
Commercial Mortgage-Backed Securities	BBB-	0	482,398
Commercial Mortgage-Backed Securities	BBB	6,459,626	1,570,755
Commercial Mortgage-Backed Securities	BBB+	0	431,688
Commercial Mortgage-Backed Securities	CCC	3,593,610	453,955
Commercial Mortgage-Backed Securities	CCC+	131,793	0
Commercial Mortgage-Backed Securities	not rated	14,781,893	11,096,415
Corporate Bonds	A-	2,558,956	3,182,545
Corporate Bonds	A	2,891,173	5,788,634
Corporate Bonds	A+	1,240,072	1,294,144
Corporate Bonds	AA-	1,697,758	1,032,463
Corporate Bonds	AA	797,178	1,058,744
Corporate Bonds	AA+	308,187	652,699
Corporate Bonds	AAA	956,040	1,099,603
Corporate Bonds	BB+	903,607	616,617
Corporate Bonds	BBB-	7,496,944	3,504,432
Corporate Bonds	BBB	3,975,938	7,534,372
Corporate Bonds	BBB+	3,508,299	1,286,503
Corporate Bonds	not rated	2,178,259	1,899,768
Corporate Convertible Bonds	A	0	489,850
Corporate Convertible Bonds	A+	319,837	327,750
Corporate Convertible Bonds	AA-	0	388,875
Corporate Convertible Bonds	BBB+	0	362,500
Corporate Convertible Bonds	not rated	0	191,255
Government Agencies	A+	0	163,769
Government Agencies	AA	297,231	0
Government Agencies	AAA	465,736	0
Government Bonds	AAA	26,278,817	20,299,125
Government Bonds	Treasury	6,652,673	3,991,962
Government Mortgage-Backed Securities	Agency	32,913,477	25,070,315
Government Mortgage-Backed Securities	not rated	0	368,951
Municipal/Provincial Bonds	A	1,048,040	0
Municipal/Provincial Bonds	A+	514,687	0
Municipal/Provincial Bonds	AA-	857,080	508,484
Municipal/Provincial Bonds	AA	159,387	2,242,881
Municipal/Provincial Bonds	AA+	0	206,735
Municipal/Provincial Bonds	AAA	3,891,278	1,266,197
Pooled Investments	not rated	75,793,208	62,165,864
<b>Total</b>		<b>\$247,902,462</b>	<b>\$203,259,466</b>

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Note 3 (g) – Investment Foreign Currency Risk**

### **Exposure to Foreign Currency Risk as of June 30**

Foreign Currency	Cash and Equivalents	Equities	Fixed Income	Real Estate	6/30/10 Total	6/30/09 Total
Australian Dollar	\$ 22,870	\$ 2,680,296	\$0	\$ 0	\$ 2,703,166	\$ 1,373,296
British Pound Sterling	212,765	2,548,249	0	0	2,761,014	2,503,550
Canadian Dollar	160,038	1,500,157	0	0	1,660,195	687,062
Euro	1,790,365	1,508,142	0	6,444,043	9,742,550	6,241,077
Hong Kong Dollar	100,225	1,492,540	0	0	1,592,765	2,003,628
Japanese Yen	14,511	918,378	0	0	932,889	683,981
Singapore Dollar	318,989	2,116,361	0	0	2,435,350	1,885,200
Swedish Krona	194,742	0	0	0	194,742	353,272
<b>Total Exposure Risk</b>	<b>\$2,814,505</b>	<b>\$12,764,123</b>	<b>\$0</b>	<b>\$6,444,043</b>	<b>\$22,022,671</b>	<b>\$15,731,066</b>

## **Note 3 (h) – Securities Lending**

In accordance with the Board of Trustees' investment policy, MPERS participates in a securities lending program. The Northern Trust Company administers the program. There are no restrictions on the amount of securities that may be lent.

Securities that may be loaned include U.S. government and agency securities, corporate equity, and fixed income securities. Collateral may include cash, U.S. government securities and irrevocable letters of credit. U.S. securities are loaned in exchange for collateral valued at 102% of the market value of the securities, plus any accrued interest. Non-U.S. securities are loaned in exchange for collateral valued at 105% of the market value of the securities, plus any accrued interest. On June 30, 2010 and 2009, MPERS had no credit risk exposure to borrowers, since the amount of collateral exceeded the amount of the loans.

Non-cash collateral cannot be pledged or sold unless the borrower defaults. The average term of the System's loans was approximately 88 days and 85 days, as of June 30, 2010 and June 30, 2009, respectively. Cash open collateral is invested in a short-term investment

pool, which had an interest sensitivity of 25 days and 15 days, as of June 30, 2010 and June 30, 2009, respectively. Cash collateral may also be invested separately in "term loans", in which case the investments match the loan term. These loans can be terminated on demand by either lender or borrower. There were no known violations of legal or contractual provisions, or borrower or lending agent default losses. There were no dividends or coupon payments owing on the securities lent. Securities lending earnings are credited on approximately the fifteenth day of the following month.

Indemnification deals with a situation in which a client's securities would not be returned due to the insolvency of a borrower and Northern Trust would fail to live up to its contractual responsibilities relating to the lending of those securities. Northern Trust's responsibilities include performing appropriate borrower and collateral investment credit analyses and demanding adequate types and levels of collateral.

The collateral held (including both cash collateral recognized in the Statement of Plan Net Assets and non-cash collateral) was as follows at June 30:

## **Collateral Held**

Investment Type	2010	2009
Equities	\$34,062,205	\$26,957,760
Government & government sponsored securities	7,657,793	24,810,687
Corporate bonds	4,266,725	3,243,667
	<b>\$45,986,723</b>	<b>\$55,012,114</b>

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## **Note 3 (i) – Derivatives**

A derivative financial instrument is an investment whose value depends on the values of one or more underlying assets, financial indexes, or commodity prices.

These investments include futures contracts, options contracts, and forward foreign currency exchange.

Derivative financial instruments involve credit risk and market risk, as described in Note 3 (a), in varying levels. The notional value related to these derivative instruments are generally not recorded on the financial statements; however, the change in market value of

these instruments is incorporated in performance.

The notional/market value of \$131,922,512 and \$137,050,350 for the various contracts in MPERS' portfolio as of June 30, 2010 and 2009 is recorded in investments on the Statement of Plan Net Assets. The change in fair value of \$22,369,693 and (\$3,383,936) for the years ended June 30, 2010 and 2009 is recorded in investment income on the Statement of Changes in Plan Net Assets.

## **Investment Derivatives as of June 30, 2010**

Type	Notional/ Market Value	Cost	Unrealized Gain (Loss)
Futures	\$132,020,760	\$110,119,386	\$21,901,374
Options	(90,450)	(566,567)	476,117
Forwards	(7,798)	0	(7,798)
	<b>\$131,922,512</b>	<b>\$109,552,819</b>	<b>\$22,369,693</b>

As of June 30, 2010, there is no counterparty risk associated with MPERS' derivatives exposures since all positions are traded on a regulated exchange.

## NOTE 4 – RECEIVABLES

Receivables at June 30 consisted of the following:

## **Receivables**

Type	2010	2009
Contributions-MoDOT	\$3,308,463	\$3,470,483
Contributions-MSHP Non-Uniformed	559,379	539,703
Contributions-MSHP Uniformed	1,086,610	1,100,364
Contributions-Retirement System	11,682	11,239
Commission Recapture	1,293	823
Securities Lending	16,202	22,887
Amounts Due From Members	185	445
Investment Interest & Income	3,264,452	2,255,682
Investment Sales	82,216,889	2,576,661
	<b>\$90,465,155</b>	<b>\$9,978,287</b>



# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 5 – CONTRIBUTIONS

MoDOT, the Highway Patrol, and MPERS make contributions to the System. As a non-contributory defined benefit plan, employees do not contribute to the System. MPERS permanent funding policy provides for actuarially determined employer contributions using the entry-age normal cost method on a closed group basis (consisting of normal cost and amortization of any unfunded accrued liabilities over a 30-year period, beginning July 1, 2006). (The objective is to reduce the period by one year each year.) A temporary accelerated policy has been adopted where the total contribution is based on entry-age normal cost plus a 15-year amortization period for unfunded retiree liabilities and a 30-year amortization period for other unfunded liabilities. Both amortization periods are closed periods starting July 1, 2010. This temporary accelerated policy was adopted by the MPERS' Board of Trustees on September 17, 2009 and will remain in effect until such

time as the retiree liability becomes 100% funded or the permanent policy produces a higher contribution rate. Actuarially determined rates, expressed as percentages of annual covered payroll, provide for amounts sufficient to fund those benefits designated by state statute to be funded in advance. Actuarial assumptions used to compute contribution requirements are the same as those used to compute the pension benefit obligation.

Required employer contributions totaling \$124,052,534 and \$122,599,301 for fiscal years 2010 and 2009, respectively, represent funding of normal costs and amortization of the unfunded accrued liability. Actual contributions made were 100% of required contributions. Contribution rates as determined by the System's actuary for the years ended June 30, 2010 and 2009 are shown below. The Board established actual rates to be the same as the actuarially determined rates.

### Contribution Rates

2010		2009	
MoDOT, MPERS & Civilian Patrol	Uniformed Patrol	MoDOT, MPERS & Civilian Patrol	Uniformed Patrol
31.40%	39.95%	30.72%	40.22%

## NOTE 6 – RELATED PARTY TRANSACTIONS

MoDOT rents office space from MPERS. The contract began in June 2008 and is effective through May 2011.

This amounted to other income of \$33,024 and \$33,024 during FY10 and FY09, respectively.

## NOTE 7 – PERSONAL SERVICES AND RETIREMENT PLAN

MPERS employed 13 full-time employees on June 30, 2010 and June 30, 2009. Six former MPERS employees have retired. Full-time employees are also members of the System. For these employees, MPERS accrued 31.40% of payroll during FY10, amounting to \$282,762,

which was equal to the required contribution. The net obligations for FY10 and the two preceding years are shown below. These amounts are recorded as both a contribution and administrative expense. Information regarding the retirement plans can be found in Notes 2 and 5.

### Net Obligations

Year Ended June 30	Annual Required Contribution		Percent Contributed	Net Obligation
	Percent	Dollars		
2008	31.01% <sup>(1)</sup>	282,498	100%	\$0
2009	30.72% <sup>(1)</sup>	255,300	100%	\$0
2010 <sup>(2)</sup>	31.40% <sup>(1)</sup>	282,762	100%	\$0

(1) The Annual Required Contribution rate is equal to the Actuarially Required Contribution rate.

(2) New assumptions adopted.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 8 – OTHER POSTEMPLOYMENT BENEFITS (OPEB)

In addition to the retirement benefits described previously, MPERS provides a portion of health care insurance through the MoDOT and MSHP Medical and Life Insurance Plan (Insurance Plan) in accordance with Missouri state statutes. For the purpose of reporting OPEB costs and obligations in accordance with Governmental Accounting Standards Board (GASB) Statement 45, the Insurance Plan is considered an agent multiple-employer defined benefit plan administered by MoDOT. Medical insurance benefits are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission. Benefits include general inpatient and outpatient medical services; mental, nervous and substance abuse care; and prescriptions. Eligible members are employees who retired from the System with a minimum of 5 years of service and who participate in the Insurance Plan. MoDOT issues a publicly available financial report that includes financial statements and required supplementary information for the Insurance Plan. Requests for this report should be addressed to MoDOT, Controller's Division, P.O. Box 270, Jefferson City, MO 65102.

Employer and member contributions are established by the Insurance Plan's Board of Trustees and are approved by the Missouri Highways and Transportation Commission. Premiums vary by coverage categories, which include retirees, certain disabled employees, spouses, certain dependents, and survivors of deceased employees and retirees. Employer and member required contribution rates average approximately 51% and 49%, respectively. The Insurance Plan is financed on a pay-as-you-go basis and is an internal service fund of MoDOT.

MoDOT's actuarial valuations for the Insurance Plan are performed biennially. The July 1, 2009 actuarial valuation was used for the FY10 financial statements. For this period, the annual required contribution (ARC) is equal to the annual OPEB cost. MPERS contributed \$31,619 and \$19,930 in FY10 and FY09 (26% and 18% of the ARC) respectively, including implicit rate subsidies. MPERS' share of the net OPEB obligation was \$276,548 and \$182,305 at June 30, 2010 and 2009, respectively. MPERS' share of the changes in the Insurance Plan's net OPEB obligation is shown below.

### **OPEB Cost and Obligation for the Year Ended June 30,**

Type	2010	2009
Normal Cost	\$ 56,791	\$ 35,919
Amortization Payment	60,910	73,005
Interest on Above Items	5,297	-
Interest on Net OPEB Obligation	8,449	4,722
Adjustment to ARC	(11,031)	(5,851)
Annual OPEB Cost	120,416	107,795
Contributions	(31,619)	(19,930)
Increase in Net OPEB Obligation	88,797	87,865
Adjustment for Prior Years' Interest	5,446	-
Net OPEB Obligation - Beginning of Year	182,305	94,440
Net OPEB Obligation - End of Year	<u>\$276,548</u>	<u>\$182,305</u>

Because the Insurance Plan is an internal service fund of MoDOT, the Insurance Plan's assets have not been set aside. Because of this, there is no actuarial value of assets, so the entire actuarial accrued liability (AAL) is unfunded. Based on an actuarial report dated July 1, 2009, MPERS' portion of the AAL is \$1,036,681, which is equal to MPERS' portion of the unfunded actuarial accrued liability (UAAL).

Actuarial valuations of an ongoing plan reflect long-term perspective and involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples

include assumptions about future employment, mortality, and the healthcare cost trend. These calculations are subject to continual revision as actual results are compared to past expectations and new estimates are made about the future. A schedule of funding progress is presented as required supplementary information following the notes to the financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively. Data is not available for prior years. Over time, the schedule of funding progress will present trend information about whether the actuarial value of plan assets is increasing or decreasing relative to the AAL for benefits.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employers and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing of benefit costs between the employers and plan members to that point. The actuarial methods and assumptions

used include techniques that are designed to reduce short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. The actuarial methods and assumptions utilized in the valuation are shown on the following table.

## **Actuarial Methods and Assumptions**

Actuarial Cost Method	Projected unit credit
UAAL Amortization Method	Level dollar amount
UAAL Amortization Period	30 years
UAAL Amortization Approach	Open
Investment Return (Discount) Rate	4.5%
Healthcare Cost Trend Rate	8%, decreasing to 5% in 2015

## NOTE 9 – CAPITAL ASSETS

### **Summary of Changes in Capital Assets**

	<b>6/30/2009 Balance</b>	<b>Additions</b>	<b>Deletions/ Retirements</b>	<b>6/30/2010 Balance</b>
Land	\$ 84,000	\$ 0	\$0	\$ 84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	1,318,357	1,735,137	0	3,053,494
Less: Accumulated Depreciation	(324,729)	(117,858)	0	(442,587)
<b>Total</b>	<b>\$1,659,247</b>	<b>\$1,617,279</b>	<b>\$0</b>	<b>\$3,276,526</b>

	<b>6/30/2008 Balance</b>	<b>Additions</b>	<b>Deletions/ Retirements</b>	<b>6/30/2009 Balance</b>
Land	\$ 84,000	\$ 0	\$ 0	\$ 84,000
Buildings	581,619	0	0	581,619
Furniture, Equipment and Software	1,145,599	202,621	(29,863)	1,318,357
Less: Accumulated Depreciation	(233,766)	(108,029)	17,066	(324,729)
<b>Total</b>	<b>\$1,577,452</b>	<b>\$ 94,592</b>	<b>(\$12,797)</b>	<b>\$1,659,247</b>

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 10 – OPERATING LEASES

As of June 30, 2010, MPERS is committed to four equipment and services related leases. The leases extend through May 2014. Expenditures for the years ended

June 30, 2010 and 2009 amounted to \$32,123 and \$8,888, respectively.

### **Future Minimum Lease Payments**

#### **Year Ending June 30**

2011	\$25,884
2012	8,604
2013	8,604
2014	6,135
<b>Total minimum lease payments</b>	<b><u>\$49,227</u></b>

## NOTE 11 – RISK MANAGEMENT

MPERS is exposed to various risks of loss related to natural disasters, asset theft or damage, errors and omissions, torts, and employee injuries.

MPERS has purchased commercial insurance related to capital asset loss and damage. Ancillary coverage provided through the property policy includes coverage for accounts receivable, loss of money and securities, employee dishonesty, and forgery and alterations. MPERS carries a \$2 million umbrella liability policy. MPERS has coverage through Missouri Highway and Transportation Commission's Self-Insurance Fund related

to workers' compensation. MPERS has also purchased an executive risk insurance package that includes directors and officers liability (\$1 million aggregate coverage), employment practices liability (\$1 million aggregate coverage) and fiduciary liability coverage (\$5 million aggregate coverage). These coverages are inclusive of legal defense costs and each policy carries a \$25,000 deductible. The State's Legal Expense Fund covers all state employees and officers, and MPERS has purchased surety bonds for the director and staff. Settlements have not exceeded coverages for each of the past three fiscal years.

## NOTE 12 – COMMITMENTS

During fiscal year 2007, the System purchased a new pension administration software system. \$2,889,221 of the total costs have been capitalized and \$181,371 have been expensed. As of June 30, 2010, payments

totaling \$1,989,521 have been made on the capitalized portion, leaving \$899,700 remaining to be paid. Of this remaining amount, \$393,300 will be paid in FY2011, \$397,500 in FY2012, and \$108,900 in FY2013.

# Notes to the Financial Statements

For the Years Ended June 30, 2010 and 2009

## NOTE 13 – SUBSEQUENT EVENTS

A pension reform bill was passed during a special legislative session held in June and July of 2010 and was signed into law by the Governor on July 19, 2010. The bill created a new tier of benefits within the Year 2000 Plan for new employees hired for the first time on or after January 1, 2011.

Provisions of the new benefit tier include; employee contributions of 4% of monthly pay, vesting requirement of 10 years of creditable service, refund of contributions payable 90 days after termination (not eligible for refund if member is eligible for retirement), and annual interest of 4% paid on members' contributions.

Under the new benefit tier, MoDOT and civilian patrol employees may retire with full benefits upon the earliest of attaining; at least age 67 with 10 years of service, or "Rule of 90" – at least age 55 with sum of member's

age and service equaling 90 or more. Early retirement eligibility requirement is at least age 62 with 10 years of service. Provisions that apply for uniformed patrol members under the new benefit tier are; at least age 55 with 10 years of service, mandatory retirement at age 60, and no eligibility for early retirement. Provisions for terminated and vested members are; at least age 67 with 10 years of service and no eligibility for early retirement. A member must retire under "Rule of 90" to be eligible for the temporary benefit, which ends at age 62.

With the creation of this new benefit tier requiring employee contributions, MPERS has begun another phase of the technology project implementing a new pension administration software system. This additional phase will add the functionality necessary to process employee contributions.



# Required Supplementary Information

## Schedule of Funding Progress

Year Ended June 30	Actuarial Asset Value	Accrued Liability – Entry Age	Unfunded Accrued Liability (UAAL)	Funded Ratio	Actuarial Covered Payroll <sup>(1)</sup>	UAAL as a Percentage of Covered Payroll
2005 <sup>(2)</sup>	\$1,417,348,982	\$2,627,409,025	\$1,210,060,043	53.94%	\$334,030,151	362.26%
2006	1,521,142,953	2,740,437,837	1,219,294,884	55.51%	341,227,890	357.33%
2007 <sup>(2)</sup>	1,685,807,004	2,897,267,409	1,211,460,405	58.19%	365,012,472	326.89%
2008	1,783,902,280	3,019,633,781	1,235,731,501	59.08%	375,984,141	328.67%
2009	1,471,496,660	3,113,393,645	1,641,896,985	47.26%	379,542,506	432.60%
2010 <sup>(2)</sup>	1,375,844,573	3,258,866,925	1,883,022,352	42.22%	378,063,006	498.07%

(1) Values are estimated from contribution rate and amount.

(2) New assumptions adopted.

## Schedule of Employer Contributions

Year Ended June 30	Uniformed Patrol			MoDOT, Civilian Patrol & MPERS		
	Annual Required Contribution Percent	Dollars	Percent Contributed	Annual Required Contribution Percent	Dollars	Percent Contributed
2005 <sup>(2)</sup>	43.54%	22,187,762	100%	28.28%	80,052,383	100%
2006	44.27%	24,102,199	100%	30.49%	87,440,518	100%
2007 <sup>(2)</sup>	44.28% <sup>(1)</sup>	27,802,932	100%	31.10% <sup>(1)</sup>	93,991,526	100%
2008	42.61%	29,147,429	100%	31.01%	95,380,249	100%
2009	40.22%	27,298,132	100%	30.72%	95,745,169	100%
2010 <sup>(2)</sup>	39.95%	26,936,683	100%	31.40%	97,540,023	100%

(1) The ARC is the rate adopted by the Board of Trustees. This rate exceeded the actuarially calculated rate.

(2) New assumptions adopted.

## Notes to the Schedules of Trend Information

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date .....	June 30, 2010
Actuarial Cost Method .....	Entry Age Normal
Amortized Method .....	Level Percent of Payroll
Remaining Amortization Period .....	22 Years (single equivalent period)
Amortization Approach .....	Closed
Asset Valuation Method .....	3-Year Smoothing
Actuarial Assumptions:	
Investment Rate of Return .....	8.25%
Projected Salary Increase .....	3.75% to 12.25%
Cost-of-Living Adjustments .....	2.6% Compound
Includes Wage Inflation at .....	3.75%

## Required Supplementary Information

### Other Post-Employment Benefit (OPEB) Plan Schedule of Funding Progress for MoDOT and MSHP Medical and Life Insurance Plan

Year Ended June 30	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)
2008	\$0	\$1,178,303	\$1,178,303	0%
2010 <sup>(1)</sup>	\$0	\$1,036,681	\$1,036,681	0%

(1) New assumptions adopted

Actuarial valuations are performed biennially. The July 1, 2009 actuarial valuation was used for FY10 financial statements and the July 1, 2007 actuarial valuation was used for FY08 and FY09 financial statements. As allowed by the GASB, this reporting requirement is being implemented prospectively, as prior years' data is not available.

Because this plan is an internal service fund of MoDOT, assets have not been set aside. Therefore, there is no actuarial value of assets. This results in a calculated funded ratio of zero percent.

### NOTES TO THE SCHEDULE OF TREND INFORMATION

The information presented in the required supplementary schedule was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows:

Valuation Date .....	July 1, 2009
Actuarial Cost Method.....	Projected Unit Credit
UAAL Amortization Method .....	Level Dollar Amount
UAAL Amortization Period .....	30 Years
UAAL Amortization Approach .....	Open
Investment Return (discount) Rate .....	4.5%
Healthcare Cost Trend Rate .....	8% Decreasing to 5% in 2015

# Supplementary Information

## MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM SCHEDULES OF ADMINISTRATIVE EXPENSES FOR THE YEARS ENDED JUNE 30, 2010 AND 2009

	2010	2009
<b><u>Personal Services:</u></b>		
Salary Expense	\$ 930,172	\$ 842,992
Employee Benefit Expense	587,265	568,872
<b>Total Personal Services</b>	<b>1,517,437</b>	<b>1,411,864</b>
<b><u>Professional Services:</u></b>		
Actuarial Services	111,140	127,901
Computer Services	212,605	242,618
Audit Expense	30,815	26,300
Disability Program	13,687	20,384
Consultant Fees	122,374	104,396
Other	9,502	20,129
<b>Total Professional Services</b>	<b>500,123</b>	<b>541,728</b>
<b><u>Miscellaneous:</u></b>		
Depreciation	117,859	120,826
Meetings/Travel/Education	59,889	67,546
Equipment/Supplies	50,876	34,686
Printing/Postage	89,989	73,625
Bank Service Charge	8,021	7,189
Building Expenses	88,249	34,834
Other	79,738	47,203
<b>Total Miscellaneous</b>	<b>494,621</b>	<b>385,909</b>
<b>Total Administrative Expenses</b>	<b>\$2,512,181</b>	<b>\$2,339,501</b>

# Supplementary Information

## MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM SCHEDULES OF INVESTMENT EXPENSES FOR THE YEARS ENDED JUNE 30, 2010 AND 2009

	2010	2009
<b>Investment Income Expenses:</b>		
Management and Performance Fees		
Aberdeen Asset Management	\$ 145,998	\$ 134,550
ABRY Partners	376,041	380,669
Acadian Asset Management	905,766	765,274
AEW	187,500	187,500
Albourne	240,000	240,000
Algert Coldiron Investments (ACI)	115,418	282,258
American Infrastructure MLP	257,625	249,209
Apollo Real Estate	283,723	278,505
AQR Capital Management	235,768	187,681
Artio (formerly Julius Baer)	607,856	601,974
Audax Group	132,197	132,012
AXA Rosenberg	0	21,269
Barclays Global Investors	349,081	459,043
Black River	393,085	540,963
Blackrock, Inc.	0	186,816
Brevan Howard	715,194	976,049
Bridgewater Associates	919,795	519,477
CBRE	91,951	63,170
Clifton	68,089	49,830
Colony Capital	100,506	77,190
Concordia	21,178	106,401
CQS Management	260,077	327,149
CarVal Investors (CVI)	443,057	335,311
Deephaven Capital Management	49,259	143,526
EIF Management	174,825	112,815
Enhanced Investment Technologies (INTECH)	283,907	258,764
GMO	118,096	774,586
Grove Street Advisors	1,615,385	2,500,000
GSO	0	50,000
ING Clarion	432,294	602,432
Luxor	265,325	233,165
Natural Gas Partners	425,207	424,717
Och-Ziff Real Estate	179,339	152,890
Ospraie	247,990	61,648
Paulson and Co.	585,328	1,852,594
Pinnacle Associates	223,399	107,914
Principal Global Investors	648,264	855,587
RMK Timberland	164,137	205,989
Rothschild Asset Management	76,189	216,200
Silchester International Investors	612,932	500,069
Stark Investments (Shepard)	159,517	255,800
Structured Portfolio Management (SPM)	1,910,068	327,658
Taconic	547,355	184,544
Urdang	261,969	268,307
Vectis	187,500	166,524
Vicus Capital	95,991	625,819
Western Asset Management Company	1,442,370	133,137
<b>Total Management and Performance Fees</b>	<b>17,556,549</b>	<b>18,116,985</b>
Investment Custodial Fee	97,212	122,541
Performance Management	87,000	85,757
General Consultant (monitoring) Fee	225,000	225,000
Other Investment Expenses	101,681	828,828
<b>Total Investment Income Expenses</b>	<b>\$18,067,442</b>	<b>\$19,379,111</b>
<b>Securities Lending Expenses:</b>		
Borrower Rebates	\$112,145	\$237,672
Bank Fees	79,194	71,278
<b>Total Securities Lending Expenses</b>	<b>\$ 191,339</b>	<b>\$ 308,950</b>

# Supplementary Information

## MoDOT AND PATROL EMPLOYEES' RETIREMENT SYSTEM SCHEDULES OF CONSULTANT AND PROFESSIONAL EXPENSES FOR THE YEARS ENDED JUNE 30, 2010 AND 2009

	2010	2009
Actuarial Services	\$111,140	\$127,901
Computer Services	212,605	242,618
Audit Services	30,815	26,300
Disability Administrative Services	13,687	20,384
Legislative Consultant	33,667	35,000
Board Governance Consultant	51,634	58,000
Customer Service and Benefit Delivery	31,073	5,396
Insurance Consultant	6,000	6,000
Other	9,502	20,129
<b>Total Consultant and Professional Expenses</b>	<b><u>\$500,123</u></b>	<b><u>\$541,728</u></b>



# Notes



*In December 2009, the Wall Street Journal reported, "In nearly 200 years of recorded stock-market history, no calendar decade has seen such dismal performance as the 2000s." By mid-2009, the S&P 500 had lost 41% of its value since October 2007, the average home price had dropped over 20% from its peak, and the banking sector was on the verge of collapse. Fortunately, markets rebounded. In fiscal year 2010, MPERS' investment portfolio generated a strong 12.9% return.*

*It's important to remember that pension plans are in the business of managing risk. This is not the same as avoiding risk. Taking reasonable risk exposures in the investment portfolio enables the fund to earn an attractive return that helps ensure benefit payments are secure. During FY2010, MPERS' Board of Trustees and staff completed a review of the current asset allocation to ensure the strategies currently utilized are appropriate relative to the System's return objectives and tolerance for risk. Details of the study are discussed in greater detail in the following section.*

## Investment Section

# Chief Investment Officer Report

Susie Dahl  
Executive Director



MoDOT & Patrol  
Employees' Retirement System

Pam Henry  
Assistant Executive Director

November 10, 2010

To the Members of the MoDOT & Patrol Employees' Retirement System:

It is my pleasure to provide you with the investment section of this year's comprehensive annual financial report. This section is a supplement to the comprehensive report and provides an overview of developments and performance within the investment portfolio.

Perhaps the title of this year's report should read "What a difference a year makes!" One year ago as I wrote the fiscal year 2009 report, the global economy was on the verge of collapse, and we were on the brink of the next Great Depression. The S&P 500 had dropped 41% since October of 2007, home prices had dropped over 20% from their peak, and the banking industry was on life support and needed a number of government stimulus programs to avoid collapse. The end result for fiscal year 2009 was that MPERS' investment portfolio had suffered a -24.7% return – the worst performance ever recorded since the fund was established in 1955.

Fortunately, the government stimulus programs launched in 2009 began to generate their desired effects, and stability returned to the financial markets during fiscal year 2010. Investors realized the world was not coming to an end, the housing market began to stabilize, and financial markets across the globe rebounded. As the economy found its footing, MPERS' investment portfolio responded by generating a healthy 12.9% return for the year. Many of the strategies that performed poorly in fiscal year 2009 rebounded strongly in fiscal year 2010 with the improved economic environment. This was most evident in MPERS' fixed income portfolio, which returned 22.9% for the year. The equity portfolio also had a strong year, delivering a 16% return. The real estate portfolio continued to drag down overall results and was the only asset class to generate a negative return for the year. Signs of stabilization are emerging in this sector as well, and we're optimistic about real estate returns going forward.

Despite the overall improvement, looking forward the economy remains very fragile. While the housing market is showing signs of stability, mortgage delinquency rates remain extremely high and a record number of foreclosed and unsold homes remain on the market. The government stimulus programs were successful at stabilizing the markets, but a key concern going forward is whether the economy can continue to grow as this support is gradually withdrawn.

MPERS' Board of Trustees, with all the uncertainty in the markets in mind, completed a review of the current asset allocation strategy during the course of fiscal year 2010. With the help of outside consultants, each and every facet of the asset allocation process was reviewed to determine if changes were necessary to the current asset allocation mix. Details of the study will be discussed in greater depth throughout the investment section, but the predominant theme was to reduce the amount of risk in MPERS' portfolio. Risk takes on a number of different meanings to different people, but the risk we are focused on is the amount of exposure to equity markets. To that end, in the coming years MPERS will gradually shift assets away from publicly traded stocks and increase exposures to traditional fixed income, real estate, and private equity structures. The intent is to protect the corpus of the fund against all the uncertainty that remains in the global economy, and to construct a portfolio that performs well across various market environments, not just when the stock market rallies.

It's important to keep in mind that pension plans are in the business of managing risk, not simply avoiding risk. The risk exposures in the investment portfolio enable the fund to earn an attractive return which helps provide the benefit payments promised to you, the members of the system. Our goal in managing the investment portfolio is not to avoid risk altogether, but rather to manage risk in the best way possible to ensure your benefit payments are secure.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Krummen".

Larry Krummen, CFA

Office Location: 1913 William St., Jefferson City, MO 65109 • Mailing Address: Post Office Box 1930, Jefferson City, MO 65102-1930

Telephone Number: (573) 298-6080 • Toll Free: 1-800-270-1271 • Admin. Fax: (573) 526-5895 • Benefits Fax: (573) 522-6111

Website: [www.mpers.org](http://www.mpers.org) • E-Mail: [mpers@modot.mo.gov](mailto:mpers@modot.mo.gov)

# Investment Consultant Report



**Summit Strategies Group**

October 28, 2010

Ms. Susie Dahl  
Executive Director  
MoDOT & Patrol Employees' Retirement System  
1913 William Street  
Jefferson City, MO 65109

Dear Ms. Dahl:

The markets over the last two years have been fascinating to observers and unsettling to participants. In the last half of calendar 2008, specifically between September and November, the S&P 500 fell approximately 39% in a nine-week period. Global stock markets sold off, and the credit markets froze. Then, in March of 2009, the markets began a strong recovery which carried through the first three quarters of the fiscal year ending June 30, 2010. We witnessed a bit of retrenchment in the second quarter of 2010, but even so the market performance across the entire fiscal year was strong. For the 12-month fiscal year the broad U.S. stock market generated a 15.72% return, and the broad U.S. fixed income market was up 9.50%.

With total assets of \$1,303,536,371 on June 30, 2010 MPERS earned a net of fees return of 12.91%. While this trailed the System's policy benchmark, it was slightly above the median public pension fund return. For the 3- and 5-year periods, the fund earned -6.00 and 2.40%, likewise behind the policy benchmark. These returns were calculated using a time-weighted rate of return and are based on June 30, 2010 market values.

Performance in your stock and bond portfolios was outstanding. MPERS' U.S. stock portfolio was up 19.55%, outperforming the market by 3.83% and beating 86% of the funds in the peer group. The Non-U.S. stock portfolio returned 13.51%, likewise beating its index by over 3% and bettering 73% of the peer group. The Fixed Income portfolio – hit very hard during the '08-'09 crisis – rebounded strongly. Up 22.67% for the fiscal year, it outperformed the broad fixed income market by over 12% – and ranked better than 98% of the funds in the peer group. The Private Equity portfolio trailed the public markets but earned a respectable 7.55%. The real estate investments continued to weigh down total fund returns, with problems in the commercial markets leading to a negative 12.76% return in the fiscal year.

We spent the bulk of the year working with the Board to review your asset allocation policy and have taken steps to manage various risks in the portfolio. A reduction in public equity exposure should help reduce return volatility going forward, as will re-positioning the System's fixed income investments. We believe these changes are prudent and reflective of MPERS' specific goals and objectives. Additionally, we have conducted in-depth reviews of the measures by which your performance is gauged, to better assess the success of the investment program going forward.

On behalf of all of us at Summit Strategies Group, we appreciate your continued support and trust. It is truly a pleasure to work with you in your efforts to provide for the retirement security of your membership. We look forward to many years of continued success with the MoDOT & Patrol Employees' Retirement System.

Sincerely,

Mark A. Caplinger, CFA  
Senior Vice President

8182 Maryland Avenue, 6th Floor • St. Louis, Missouri 63105 • 314.727.7211, fax 314.727.6068



# Investment Activity Overview

## Summary of Investment Policy

The primary objective of the Missouri Highway Transportation Employees & Highway Patrol Retirement System (MPERS) is to provide active and retired employees with adequate retirement benefits. The investment portfolio is constructed to generate a total return that, when added to employer contributions, is sufficient to meet benefit obligations. Following prudent standards for preservation of capital, the goal is to achieve the highest possible rate of return consistent with the plan's tolerance for risk as determined by the Board of Trustees in its role as fiduciary.

Investment management is delegated to MPERS' staff and external asset managers. The managers operate within the set of guidelines, objectives and constraints set forth in their respective investment management agreement.

## Market Value of Investments

As of June 30, 2010, MPERS' investment portfolio had a total market value of \$1.30 billion, representing an increase of \$82.3 million from fiscal year-end 2009. Over the course of the year, \$74.9 million was transferred out of the fund to meet benefit payments and other obligations. When viewed together, the net increase to the portfolio from investment activity equated to \$157.2 million.

## Investment Performance

MPERS' investment portfolio returned 12.91% in fiscal year 2010, based on time-weighted rates of return and market valuations. Performance for the various sub-asset classes and their respective benchmark indices are listed below.

<b>Investment Performance (Including Benchmarks)</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>
<b>Total Fund</b>	12.91%	-6.00%	2.40%
Policy Benchmark	14.56	-2.44	4.12
<b>Domestic Equity</b>	<b>19.55</b>	<b>-8.84</b>	<b>0.18</b>
Russell 3000	15.72	-9.47	-0.48
<b>International Equity</b>	<b>13.51</b>	<b>-11.39</b>	<b>4.22</b>
MSCI ACWI ex-US	10.43	-10.70	3.38
<b>Fixed Income Composite</b>	<b>22.67</b>	<b>3.63</b>	<b>4.27</b>
Lehman Universal Index	10.60	7.22	5.56
<b>Real Estate</b>	<b>-12.76</b>	<b>-13.09</b>	<b>-2.49</b>
NCREIF Property Index	-1.48	-4.70	3.79
<b>Private Equity</b>	<b>7.55</b>	<b>-7.49</b>	<b>n/a</b>
S&P 500 + 400 bps	55.76	-3.26	n/a

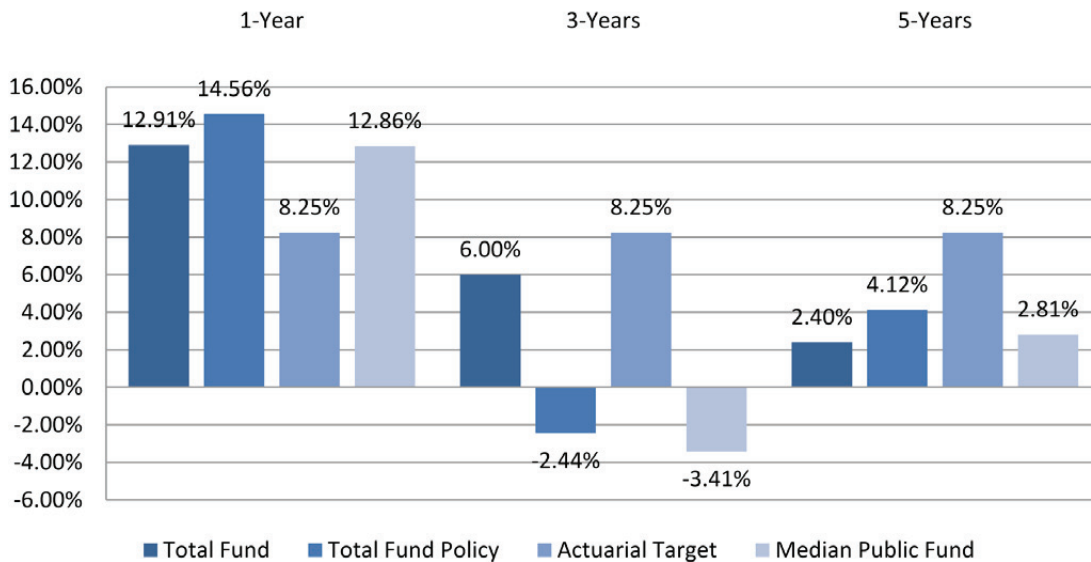


# Investment Activity Overview

When measuring performance, the Board of Trustees looks at three primary performance objectives: a) meet or exceed the actuarial assumed rate of return of 8.25%, b) outperform a policy benchmark that represents the return that could be achieved by investing passively in the broad markets in the same percentages to MPERS'

target asset allocation, and c) rank at or above the median public fund investment return.

Historical returns versus the three primary performance goals are listed below:



When evaluating fiscal year 2010 performance, it is important to take the previous year into consideration. At the time the fiscal year 2009 report was released, the global economy was on the verge of collapse, and we were on the brink of the next Great Depression. The S&P 500 had dropped 41% since October of 2007, home prices had dropped over 20% from their peak, and the banking industry was on life support and needed a number of government stimulus programs to avoid collapse. The end result for fiscal year 2009 was that MPERS' investment portfolio had suffered a -24.7% return – the worst performance ever recorded since the fund was established in 1955.

Fortunately, stability returned to the financial markets during fiscal year 2010. The government stimulus programs provided much-needed liquidity to the markets, the housing market began to stabilize, and equity markets around the globe rebounded strongly. As the economy found its footing, MPERS' investment portfolio responded by generating a healthy 12.91% return for the year. Many of the strategies that performed poorly in fiscal year 2009 rebounded strongly in fiscal year 2010 with the improved economic environment.

## **Asset Allocation Overview**

### **Equity Allocation:**

We began the year with a 45% allocation to equities, split roughly 50/50 between domestic and international equities. Throughout most of the year we maintained this allocation to equities, but we began to favor international markets towards the end of the year based on concerns over the U.S. Dollar. The massive amounts of U.S. Government debt issued to finance the various stimulus programs are a significant threat to the value of U.S. dollar relative to foreign currencies. This makes international holding more attractive relative to U.S. equities. Furthermore, the outlook for economic growth is more favorable in developing countries such as China, India, and Brazil, as the U.S. consumer continues to clean up their balance sheet and reduce spending.

Going forward, as part of the asset allocation study, the Board approved a single allocation to global equities in lieu of separate allocations to domestic and international equities. The new global equity benchmark has a 44% weighting to domestic equity and a 56% weighting to international and emerging market equities.

# Investment Activity Overview

## **Fixed Income Allocation:**

We began fiscal year 2010 with a slight underweight to overall fixed income assets, and remained heavily weighted to hedge fund strategies within the overall allocation. The total fixed income portfolio, which underperformed drastically in fiscal year 2009, rebounded strongly in fiscal year 2010 generating a 22.9% return. This type of return from a fixed income allocation shows just how dislocated the market was in fiscal year 2009. While MPERS was rewarded for staying the course with these strategies over the past year, it raises the question as to whether this kind of volatility is desirable in a fixed income portfolio. That was an important element of the asset allocation review completed during the year, and going forward the Board of Trustees approved separate allocations to traditional fixed income and hedge fund strategies.

## **Real Estate Allocation:**

MPERS' commercial real estate portfolio continued to drag down overall returns in fiscal year 2010. It was the only asset class to deliver negative returns for the year. Overall, the real estate portfolio fell by 12.8% in fiscal year 2010, but performance varied across the various real estate sectors. Private real estate strategies suffered write-downs in appraisals ranging from 15-19%, the timber portfolio dropped in value by 12%, while publicly traded real estate investment trusts (REITs) actually rose by 23% during the year. The rise in REIT shares during the year is encouraging, as they are often a leading indicator for private real estate values. Private real estate values, while negative for the year, were positive during the last quarter of the fiscal year and have rallied considerably since July 1, 2010. We are optimistic about the return prospects in this sector going forward.

## **Private Equity Allocation:**

MPERS' private equity allocation rose from 9.3% of assets to 12.1% of assets during the course of fiscal year 2010. Overall the portfolio generated a 7.6% return in fiscal year 2010. While very respectable given the relative immaturity of the portfolio (we only started committing to private equity in 2005), the portfolio drastically trailed the benchmark return due to some unfortunate timing. MPERS' private equity benchmark converted to a "public equity plus" benchmark (S&P 500 + 4%) on April 1, 2009 – almost the exact time when public equity markets bottomed during the last downturn. The subsequent rally in public equity

markets caused MPERS' private equity portfolio to underperform the benchmark by over 48% in fiscal year 2010, as private markets are much slower to adjust the pricing of the underlying holdings. The change in the private equity benchmark contributed 4.3% of underperformance at the total fund level. Said another way, without the change, MPERS would have outperformed the total fund benchmark by 2.6% instead of trailing it by 1.65%.

## **Looking Forward:**

As we move to fiscal year 2011 the primary focus will be the re-positioning of the portfolio towards the new asset allocation targets approved by the Board of Trustees. The new targets are listed on the chart below. The biggest focus will be to gradually shift assets away from publicly traded stocks, offset by increased exposures to traditional fixed income, real estate, and private equity structures.

Changes to the hedge fund portfolio seem to be a never-ending process, and going forward will be no exception. As part of the asset allocation study, we will look to offset the reduced global equity exposure by increasing the expected return in the hedge fund portfolio. To accomplish this, we are transitioning away from market neutral oriented strategies and migrating towards more event-driven and long/short equity strategies. MPERS' hedge fund portfolio, all things considered, held up very well during the last downturn. We remain convinced it is well positioned to deliver strong returns going forward.

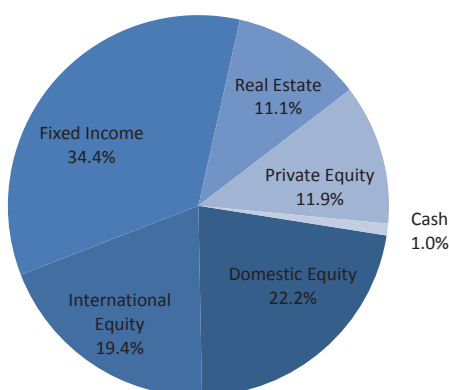
The last major restructuring will take place within the traditional fixed income portfolio, as we look to reduce the risk that led to such wide swings in performance. We intend to gradually allocate funds away from the existing manager base towards passive investment strategies in long duration fixed income, Treasury Inflation Protected Securities (TIPS), and a core allocation to the Barclay's Capital Government/Credit Index.

The following chart lists the target and actual allocations to the various sub-asset classes within the overall portfolio (as of June 30, 2010).

# Investment Summary

Asset Class	Ending FY09 Allocation	FY10 Target Allocation	Ending FY10 Allocation
<b>Public Equity</b>	<b>45.0%</b>	<b>45%</b>	<b>41.6%</b>
Domestic equity	21.7%	22.5%	22.2%
International equity	23.3%	22.5%	19.4%
<b>Private Equity</b>	<b>9.4%</b>	<b>10%</b>	<b>11.9%</b>
<b>Fixed Income</b>	<b>28.9%</b>	<b>32%</b>	<b>34.4%</b>
<b>Real Estate*</b>	<b>12.7%</b>	<b>10%</b>	<b>11.1%</b>
<b>Cash</b>	<b>4.0%</b>	<b>0%</b>	<b>1.0%</b>

\* Including Timber, which was rolled into the overall Real Estate Allocation on 4/1/07.



## Amounts Reported By Management-Type Allocation

	06/30/09		Acquisitions	Dispositions	06/30/10		% of Market
	Book Value	Market Value			Book Value	Market Value	
Domestic Equity	\$ 292,024,638	\$ 264,113,357	\$ 91,897,568	\$(159,930,147)	\$ 323,992,059	\$ 290,135,847	22.2%
International Equity	393,280,644	284,506,505	76,331,757	(179,703,755)	289,908,646	253,613,413	19.4%
Private Equity	147,653,772	114,399,308	45,154,351	(6,057,833)	186,750,290	156,031,381	11.9%
Real Estate**	174,725,959	154,099,475	31,321,478	(17,961,112)	188,086,325	144,967,496	11.1%
Fixed Income	373,928,808	351,462,581	377,767,394	(370,101,939)	381,594,263	450,925,137	34.4%
Short Term	48,891,646	48,143,112	(35,532,587)	(2,091)	13,356,968	13,362,547	1.0%
<b>Total Investments</b>	<b>\$1,430,505,467</b>	<b>\$1,216,724,338</b>	<b>\$686,939,961</b>	<b>\$(733,756,877)</b>	<b>\$1,383,688,551</b>	<b>1,309,035,821</b>	<b>100.0%</b>

### Reconciliation to Statement of Plan Net Assets:

Less Accrued Investment Interest and Income	(3,264,452)
Less Investment Sales Receivable	(82,216,889)
Plus Investment Purchases Payable	76,037,263
Currency Adjustment	(225,405)
	<u>\$1,299,366,338</u>

\*\* Timber was rolled into the overall Real Estate allocation on 4/1/07.

# Largest Investment Holdings

## Largest Equity Securities

(Non-Commingled Funds)

Security	Market Value	% of Total
EXXON MOBIL CORP COM	\$2,995,490	0.718%
MICROSOFT CORP COM	1,836,198	0.440%
INTERNATIONAL BUSINESS MACHS CORP COM	1,741,068	0.417%
AT&T INC COM	1,625,858	0.390%
APPLE INC COM STK	1,584,639	0.380%
JOHNSON & JOHNSON COM USD1	1,565,090	0.375%
GENERAL ELECTRIC CO	1,364,132	0.327%
PROCTOR & GAMBLE COM NPV	1,335,455	0.320%
PRECISION CASTPARTS CORP COM	1,296,792	0.311%
CHEVRON CORP COM	1,235,595	0.296%

## Largest Fixed Income Securities

(Non-Commingled Funds)

Par Value	Security	Market Value
20,000,000	UNITED STATES TREAS BD STRIPPED PRIN PMT028 02-15-2025 (UNDDATE) REG	\$11,395,860
10,000,000	US TREAS BD STRIPPED PRIN PMT STRIP PRINPMT 15/11/2021 USD1000 11-15-2021 REG	6,684,090
10,000,000	US TREAS BD STRIPPED PRIN PMT 02-15-2023REG	6,279,890
5,000,000	CMO COML MTG PASS THRU CTFS SER 2007-C MTG PASS THRU CTF CL A-3 09-15-2039 REG	5,074,905
7,000,000	CMO COMMERCIAL MTG TR 2007-GG9 CL AJ FLTRT DUE 03-10-2039 BEO	4,770,633
3,197,000	UNITED STATES TREAS BDS 0 DEB 15/02/2040USD1000 4.625 DUE 02-15-2040REG	3,593,626
3,015,000	CLAYTON MO SCH DIST 5.6% 03-01-2027 BEO TAXABLE	3,289,124
5,500,000	CMO CR SUISSE COML MTG TR SER 2006-C4 SER 2006-C4 CL-AJ DUE 09-15-2039 REG	3,215,410
117,846,835	I/O CMO LB-UBS COML MTG TR 2003-C3 MTG PASSTHRU CTF X-CL 144A 02-15-2037 BEO	3,161,241
5,000,000	CREDIT SUISSE FIRST BOSTON MTG SECS CORP2005-C4 MTG PASSTHRU CTF CL B 15 AUG 38	3,141,080

Space and cost restrictions make it impractical to print the entire investment portfolio in this report. However, a portfolio listing is available for review in the office of the executive director of MPERS.

# Schedule of Investment Expenses

	Market Value of Assets Under Management at 6/30/10	Fees Accrued During FY10
<b><u>Management and Performance Fees:</u></b>		
Cash	\$ 13,362,547	\$ 0
Cash/S&P 500 Futures	93,539,708	0
Internal Fixed Income	3,345,404	0
Internal US Treasuries	24,359,878	0
Transition Account	184,590	0
Aberdeen Asset Management	102,419,740	145,998
ABRY Partners	13,883,329	376,041
Acadian Asset Management	96,062,105	905,766
AEW	10,793,690	187,500
Albourne	0	240,000
Algert Coldiron Investments (ACI)	7,724,246	115,418
American Infrastructure MLP	9,270,427	257,625
Apollo Real Estate	9,019,107	283,723
AQR Capital Management	16,010,285	235,768
Artio (formerly Julius Baer)	68,345,093	607,856
Audax Group	5,948,386	132,197
Barclays Global Investors	12,718,277	349,081
Black River	8,013,593	393,085
Brevan Howard	18,247,675	715,194
Bridgewater Associates	17,315,530	919,795
CBRE	18,280,519	91,951
Clifton	0	68,089
Colony Capital	3,623,336	100,506
Concordia	822,521	21,178
CQS Management	13,289,422	260,077
CarVal Investors (CVI)	27,214,784	443,057
Deephaven Capital Management	1,445,526	49,259
EIF Management	5,391,247	174,825
Enhanced Investment Technologies (INTECH)	78,755,193	283,907
GMO	11,797,839	118,096
Grove Street Advisors	111,001,067	1,615,385
GSO	7,831,106	0
ING Clarion	33,529,057	432,294
Luxor	14,278,232	265,325
Natural Gas Partners	12,064,821	425,207
Och-Ziff Real Estate	9,852,670	179,339
Ospraie	12,354,547	247,990
Paulson and Co.	13,917,947	585,328
Pinnacle Associates	32,382,065	223,399
Principal Global Investors	75,224,167	648,264
RMK Timberland	19,968,903	164,137
Rothschild Asset Management	38,300,066	76,189
Silchester International Investors	89,021,626	612,932
Stark Investments (Shepard)	14,005,427	159,517
Structured Portfolio Management (SPM)	11,357,927	1,910,068
Taconic	21,344,609	547,355
Urdang	10,461,255	261,969
Vectis	2,123,007	187,500
Vicis Capital	3,386,787	95,991
Western Asset Management Company	75,777,055	1,442,370
<b>Total Management and Performance Fees</b>	<b><u>\$1,299,366,338</u></b>	<b><u>17,556,549</u></b>
<b><u>Other Investment Expenses</u></b>		
Investment Custodial Fee		\$97,212
Performance Management		87,000
General Consultant (monitoring) Fee		225,000
Other Investment Expenses		101,681
<b>Total Investment Income Expenses</b>		<b><u>\$18,067,442</u></b>
<b><u>Securities Lending Expenses:</u></b>		
Borrower Rebates		\$112,145
Bank Fees		79,194
<b>Total Securities Lending Expenses</b>		<b><u>\$ 191,339</u></b>



# Schedule of Brokerage Commissions

Brokerage Firm	Total Commission	Number of Shares	Commission Rate
NORTHERN TRUST CO	\$ 14,425	478,787	\$ 0.0301
CREDIT SUISSE FIRST BOSTON CORPORATION	12,566	3,455,237	0.0036
BNY ESI SECURITIES CO.	11,690	316,309	0.0370
JEFFERIES & COMPANY	11,128	880,600	0.0126
INSTINET	8,364	582,200	0.0144
GOLDMAN SACHS & COMPANY	6,931	136,312,658	0.0001
THOMAS WEISEL PARTNERS 226	6,613	306,109	0.0216
DEUTSCHE BANK SECURITIES INC	6,369	7,637,291	0.0008
MERRILL LYNCH PIERCE FENNER & SMITH	6,207	1,007,193	0.0062
UBS WARBURG LLC	4,836	52,098,981	0.0001
ROSENBLATT SECURITIES LLC 501	4,646	328,492	0.0141
LIQUIDNET INC	4,563	312,550	0.0146
LYNCH JONES & RYAN	4,245	393,170	0.0108
CITIGROUP GLOBAL LTD BROKER	4,139	679,093	0.0061
BARCLAYS CAPITAL LE	3,923	111,183	0.0353
MACQUARIE SECURITIES LTD, HONG KONG	3,545	1,950,665	0.0018
WEEDEN AND & CO	3,541	274,500	0.0129
GUZMAN & COMPANY	3,260	232,500	0.0140
MORGAN KEEGAN AND COMPANY	2,507	3,508,316	0.0007
CITATION GROUP	2,248	46,700	0.0481
CITIGROUP GLOBAL MARKETS INC/SMITH BARNEY	2,121	1,333,691	0.0016
CANTOR FITZGERALD & CO	1,959	2,053,009	0.0010
STIFEL NICOLAUS AND COMPAN	1,761	248,362	0.0071
ROBERT W. BAIRD & COMPANY INC MILWAUKEE USA	1,597	1,889,746	0.0008
MERRILL LYNCH & CO. INC DTC161	1,531	70,838	0.0216
CAP INSTITUTIONAL SERVICES INC	1,405	73,148	0.0192
GABELLI AND COMPANY	1,388	40,700	0.0341
WACHOVIA CAPITAL MARKETS 46171	1,387	33,695	0.0412
TORONTO DOMINION SECURITIES INC CAN	1,373	48,124	0.0285
BEAR STEARNS 57079	1,349	32,544	0.0415
CAZENOVE & CO	1,278	90,896	0.0141
DAIWA SECS HONG KONG	1,220	40,822	0.0299
GREEN STREETADVISORS INC NEW YORK	1,218	24,359	0.0500
SCOTT & STRINGFELLOW INVESTMENT	1,199	28,095	0.0427
SUNTRUST ROBINSON HUMPHREY	1,180	28,151	0.0419
KEMPEN & CO AMSTERDAM	1,141	14,815	0.0770
PERSHING LLC - JERSEY CITY	1,136	31,672	0.0359
KEEFE BRUYETTE WOODS INC NEW YORK	1,106	36,862	0.0300
ISI GROUP INC NEW YORK	1,074	35,275	0.0305
OTHERS (58 firms less than \$1,000 each)	22,716	924,940,078	0.0000
<b>TOTAL</b>	<b>\$ 174,886</b>	<b>1,142,007,416</b>	
<b>AVERAGE COMMISSION RATE</b>			<b>\$ 0.0002</b>



*MPERS' funding objective is to meet future benefit obligations to the System's retirees and beneficiaries through contributions and investment earnings. As of June 30, 2010, MPERS was 42% funded. Previously, in September 2009, the MPERS Board of Trustees adopted an accelerated payment plan to bolster the trust fund by electing to pay down the unfunded retiree liability over a 15-year closed period in lieu of a 30-year closed period. The adoption of the accelerated schedule demonstrates the Board's commitment to improving the System's funded status. For FY2011, our employers will contribute approximately \$5 million in additional contributions. Paying more into the System today, so the money can be invested and earn investment proceeds, ultimately reduces costs to the taxpayers and to our employers (MoDOT and MSHP).*

*Improving the plan's funded status is a long-term endeavor and will require continued discipline on the part of MPERS' Trustees and state policy makers. The MPERS Board of Trustees and the employers are working together to achieve the shared goal of being 100% funded.*

# Actuarial Section

# Actuary's Certification Letter



Gabriel Roeder Smith & Company  
Consultants & Actuaries

One Towne Square  
Suite 800  
Southfield, MI 48076-3723

248.799.9000 phone  
248.799.9020 fax  
www.gabrielroeder.com

October 29, 2010

The Retirement Board  
Missouri Department of Transportation  
and Highway Patrol Employees' Retirement System  
P.O. Box 1930  
Jefferson City, Missouri 65102-1930

Dear Board Members:

The basic financial objective of the Missouri Department of Transportation and Highway Patrol Employees' Retirement System (MPERS) is to establish and receive contributions which;

- (1) when expressed in terms of percents of active member payroll, will remain approximately level from generation to generation of Missouri citizens, and which
- (2) when combined with present assets and future investment returns, will be sufficient to meet the present and future financial obligations of MPERS.

In order to measure progress toward this fundamental objective, MPERS has annual actuarial valuations performed. The valuations (i) measure present financial position, and (ii) establish contribution rates that provide for the current cost and level percent-of-payroll amortization of unfunded actuarial liabilities over a reasonable period. An actuarial valuation was performed based upon benefit conditions, data and assumptions as of June 30, 2010. This valuation indicates that contribution rates for the period beginning July 1, 2011 that are at least equal to the calculated contributions rates will meet the Board's financial objective. The calculated contribution rates are 45.45% of payroll for the 7,352 Non-Uniformed employees and 58.63% of payroll for the 1,105 Uniformed patrol employees.

The actuarial valuations are based upon financial and participant data (which is prepared by retirement system staff) assumptions regarding future rates of investment return and inflation, and rates of retirement, turnover, death, and disability among MPERS' members and their beneficiaries. We review the data for internal and year-to-year consistency as well as general reasonableness prior to its use in the actuarial valuations. It is also summarized and tabulated for the purpose of analyzing trends. The assumptions were adopted by the Board of Trustees and were based upon actual experience of MPERS during the period July 1, 2004 to June 30, 2009. The funding policy was adopted by the Board at the September 17, 2009 Board meeting and was designed to better address the unfunded retiree liability. Assets were valued using a three-year smoothing method. The assumptions and methods utilized in this valuation, in our opinion, meet the parameters established by the Governmental Accounting Standards Board Statement No. 25.

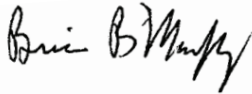
The current benefit structure is outlined in the Introductory Section. We provided the information used in the supporting schedules in the Actuarial Section and the Schedules of Funding Progress in the Financial Section, as well as the employer contribution rates shown in the Schedule of Employer Contributions in the Financial Section.

# Actuary's Certification Letter

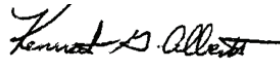
The Retirement Board  
Missouri Department of Transportation  
and Highway Patrol Employees' Retirement System  
October 29, 2010  
Page 2

The signing actuaries are Members of the American Academy of Actuaries (M.A.A.A.) as indicated, and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

**Based upon the valuation results, it is our opinion that the Missouri Department of Transportation and Highway Patrol Employees' Retirement System continues to operate in accordance with actuarial principles of level percent-of-payroll financing. It is important to the well-being of the System that it continues to receive contributions at the actuarially determined levels. It is also important to continue to monitor both the total funded status and the funded status of the retiree liabilities to ensure that the funding policy is consistent with the expected life span of the respective unfunded obligation.**



Brian B. Murphy, F.S.A., E.A., M.A.A.A.



Kenneth G. Alberts

Gabriel Roeder Smith & Company

# Summary of Actuarial Methods and Assumptions

Valuation Date: ..... June 30, 2010  
Actuarial Cost Method: ..... Entry Age Normal  
Amortized Method: ..... Closed, level percent of payroll  
Remaining Amortization Period: ..... 22 years (single equivalent period)  
Asset Valuation Method: ..... 3-year smoothing  
Actuarial Assumptions:  
    Investment Rate of Return: ..... 8.25%  
    Projected Salary Increase: ..... 3.75% to 12.25%  
    Cost-of-Living Adjustments: ..... 2.6% Compound  
    Includes Wage Inflation at: ..... 3.75%

An actuarial valuation is based upon an actuarial cost method, an asset valuation method, and actuarial assumptions. These methods and assumptions are chosen by the Board of Trustees after consultation with the Actuary and other advisors.

The actuarial cost method is called the Entry Age Actuarial Cost Method. This method is consistent with the Board's level percent of payroll funding objective. With this method, the level percent of payroll is determined that will fund a member's retirement benefit over the member's entire working lifetime, from date of hire (Entry Age) to date of exit from the active member population. Differences in the past between assumed and actual experience become part of unfunded actuarial accrued liabilities and are amortized with level percent of payroll contributions. This cost method was first used in the **June 30, 1999** valuation.

The asset valuation method is a three year smoothed market value method in which assumed investment return is recognized immediately each year and differences between actual and assumed investment return are phased in over a closed three year period. This asset valuation method is intended to give recognition to the long term accuracy of market values while filtering out and dampening short term market swings. This method was first used in the **June 30, 1999** valuation.

The actuarial assumptions used in producing the valuation fall into two broad classes: economic assumptions, and demographic assumptions. Economic assumptions refer to long term rates of investment return, wage growth, covered population growth, and inflation. Demographic assumptions refer to retirement rates, turnover rates, disability rates, merit and seniority pay increases, and mortality rates. The current assumptions are based upon a 2004-2009 study of experience of the MPERS. The assumptions are reviewed from time to time to keep them reasonably current with expected experience.

## **Economic Assumptions**

**The investment return rate** used in making the valuation was 8.25% per year, compounded annually (net after administrative expenses). This rate of return is not the assumed real rate of return. The real rate of return over wage inflation is defined to be the portion of investment return which is more than the wage inflation rate. Considering wage inflation recognition of 3.75%, the 8.25% rate translates to an assumed real rate of return over wage inflation of 4.5%. This rate was first used for the **June 30, 2005** valuation.



# Summary of Actuarial Methods and Assumptions

**Pay increase assumptions** for individual active members are shown on page 44. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.75% recognizes wage inflation. These rates were first used for the **June 30, 2010** valuation.

**Price Inflation** is assumed to be 3.25%. This results in a 2.6% annual COLA assumption. It is assumed that the 2.6% COLA will always be paid.

The Active Member Group size is assumed to remain constant at its present level.

**Total active member payroll** is assumed to increase 3.75% a year, which is the portion of the individual pay increase assumptions attributable to wage inflation. This rate was first used for the **June 30, 2005** valuation.

## **Non Economic Assumptions**

**The mortality table** used to measure retired life mortality was the 1994 Group Annuity Mortality Tables projected to the year 2002 set forward 2 years for males and set back 3 years for females. Related values are shown on page 44. This table was first used for the **June 30, 2010** valuation. Disabled pension mortality was based on PBGC Disabled Mortality tables.

**The probabilities of retirement** for members eligible to retire are shown on page 45. The rates for full retirement were first used in the **June 30, 2010** valuation. The rates for reduced retirement were first used in the **June 30, 2010** valuation. Upon retirement, members are assumed to pick the BackDROP period that when combined with the remaining annuity produces the highest liability.

**The probabilities of disability** for members eligible to retire are shown on page 45. The rates for disability were first used in the **June 30, 2010** valuation.

**The probabilities of withdrawal** from service, death in service and disability are shown for sample ages on pages 43 and 45. The death-in-service and disability rates were first used in the **June 30, 2010** valuation. The withdrawal rates were first used in the **June 30, 2010** valuation.

**The data about persons now covered and about present assets** was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary. Data was furnished as of May 31 and assumed to be statistically equivalent to June 30.

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The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.).

# Summary of Actuarial Methods and Assumptions

## Probabilities of Separation From Active Employment Less Than 5 Years of Service

Service	MoDOT, Civilian Patrol and MPERS		Uniformed Patrol	
	Male	Female	Male	Female
0-1	30.00%	19.00%	14.00%	14.00%
1-2	16.00	13.00	6.50	6.50
2-3	8.00	9.00	3.50	3.50
3-4	6.50	8.00	3.00	3.00
4-5	5.00	5.00	3.00	3.00

## Probabilities of Separation From Active Employment More Than 5 Years of Service

Age	MoDOT, Civilian Patrol and MPERS		Uniformed Patrol	
	Male	Female	Male	Female
25	4.93%	5.10%	3.14%	3.14%
30	4.39	5.10	2.75	2.75
35	3.53	4.59	2.09	2.09
40	2.75	3.74	1.43	1.43
45	2.06	2.89	0.88	0.88
50	1.51	2.04	0.44	0.44
55	1.10	1.19	0.17	0.17
60	0.89	0.34	0.11	0.11

# Summary of Actuarial Methods and Assumptions

## Salary Increase Assumptions For an Individual Member

Age	Age Based Salary Scale					
	MoDOT, Civilian Patrol and MPERS			Uniformed Patrol		
	Merit & Seniority	Base (Economic)	Increase Next Year	Merit & Seniority	Base (Economic)	Increase Next Year
20	8.00%	3.75%	11.75%	8.50%	3.75%	12.25%
25	5.66	3.75	9.41	6.16	3.75	9.91
30	3.30	3.75	7.05	3.80	3.75	7.55
35	2.05	3.75	5.80	2.55	3.75	6.30
40	1.45	3.75	5.20	1.95	3.75	5.70
45	0.95	3.75	4.70	1.45	3.75	5.20
50	0.60	3.75	4.35	1.10	3.75	4.85
55	0.38	3.75	4.13	0.88	3.75	4.63
60	0.30	3.75	4.05	0.80	3.75	4.55

## Joint Life Retirement Values (8.25% Interest)

Sample Attained Ages	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	\$139.96	\$136.07	30.74	35.46
55	135.25	130.02	26.15	30.74
60	128.88	122.23	21.80	26.15
65	120.71	112.78	17.81	21.80
70	110.83	101.31	14.17	17.81
75	98.83	87.62	10.86	14.17
80	84.68	72.85	8.04	10.86

The present values shown above are for illustrative purposes only and include a 50% survivor benefit but do not include the value of future post-retirement increases. Males are assumed to be 3 years older than their spouses.

# Summary of Actuarial Methods and Assumptions

## Percent of Eligible Active Members Retiring Next Year (Rates of Retirement)

Age	MoDOT, Civilian Patrol and MPERS				Uniformed Patrol	
	Male		Female		Male	Female
	Normal	Early	Normal	Early	Normal	
50	30.00%	0.00%	30.00%	0.00 %	40.00%	40.00%
55	20.00	3.00	30.00	3.00	25.00	25.00
60	20.00	10.00	20.00	5.00	100.00	100.00
65	40.00	0.00	40.00	0.00	100.00	100.00
70	50.00	0.00	50.00	0.00	100.00	100.00

## Percent of Members Becoming Disabled at the Indicated Age (Rates of Disability)

Age	MoDOT, Civilian Patrol and MPERS		Uniformed Patrol	
	Male	Female	Male	Female
25	0.02%	0.05%	0.01%	0.01%
30	0.03	0.10	0.02	0.02
35	0.06	0.14	0.02	0.02
40	0.10	0.19	0.05	0.05
45	0.23	0.32	0.09	0.09
50	0.42	0.42	0.19	0.19
55	0.54	0.66	0.35	0.35
60	1.00	0.90	0.58	0.58

# Summary of Member Data Included In Valuations

	Non-Uniformed				
	Civilian Patrol	MoDOT and MPERS	Non-Uniformed Total	Uniformed Patrol	Grand Total
<b>Active Members</b>					
Closed Plan	582	3,478	4,060	730	4,790
Year 2000 Plan	562	2,730	3,292	375	3,667
Total Active Members	1,144	6,208	7,352	1,105	8,457
<i>Total Active Members Prior Year</i>	1,122	6,579	7,701	1,083	8,784
<b>Retiree -- Regular Pensioners</b>					
Closed Plan	422	3,749	4,171	781	4,952
Year 2000 Plan	355	2,153	2,508	1	2,509
Total Regular Pensioners	777	5,902	6,679	782	7,461
Self Insured Disability Pensioners	6	67	73	3	76
Fully Insured Disability Pensioners	5	64	69	0	69
Terminated Vested Members	219	1,407	1,626	161	1,787
<b>Total</b>	<b>2,151</b>	<b>13,648</b>	<b>15,799</b>	<b>2,051</b>	<b>17,850</b>
Active Member					
Valuation Payroll	\$ 41,931,141	\$ 260,802,058	\$ 302,733,199	\$ 67,178,053	\$ 369,911,252
Active Member					
Valuation Payroll Prior Year	\$41,561,449	\$268,487,978	\$ 310,049,427	\$ 67,602,818	\$ 377,652,245
Unfunded Actuarial					
Accrued Liability	N/A	N/A	\$1,442,749,286	\$440,273,066	\$1,883,022,352

Member data for actuarial valuation is as of May 31, 2010



# Active Members By Attained Age and Years of Service

## MoDOT and MPERS

### Closed Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	-	-	-	-	-	-	-	0	0
25-29	-	-	4	-	-	-	-	4	152,303
30-34	-	-	157	1	-	-	-	158	6,493,255
35-39	-	-	259	118	2	-	-	379	17,723,548
40-44	-	-	213	284	92	7	-	596	28,056,993
45-49	-	-	209	179	241	186	8	823	39,918,543
50-54	-	-	155	168	189	203	136	851	40,923,819
55-59	-	-	97	118	100	77	67	459	21,195,295
60-64	-	-	49	50	39	17	26	181	8,357,411
65-69	-	-	8	3	3	3	2	19	799,897
70+	-	-	-	3	-	1	4	8	409,941
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>1,151</b>	<b>924</b>	<b>666</b>	<b>494</b>	<b>243</b>	<b>3,478</b>	<b>\$164,031,005</b>

Average Age 47.8 years  
 Average Service 19.0 years  
 Average Pay \$47,162

### Year 2000 Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	120	2	-	-	-	-	-	122	3,905,194
25-29	321	133	-	-	-	-	-	454	16,081,606
30-34	214	304	-	-	-	-	-	518	19,820,808
35-39	188	229	-	-	-	-	-	417	15,023,840
40-44	180	193	-	-	-	-	-	373	12,778,038
45-49	148	192	-	-	-	-	-	340	11,629,399
50-54	113	146	-	-	-	-	-	259	8,929,175
55-59	70	103	-	-	-	-	-	173	5,885,204
60-64	25	33	-	-	-	-	-	58	2,091,085
65-69	9	6	-	-	-	-	-	15	594,219
70+	-	1	-	-	-	-	-	1	32,485
<b>Totals</b>	<b>1,388</b>	<b>1,342</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,730</b>	<b>\$96,771,053</b>

Average Age 39.0 years  
 Average Service 4.9 years  
 Average Pay \$35,447

Member data for actuarial valuation is as of May 31, 2010.

# Active Members By Attained Age and Years of Service

## Uniformed Patrol

### Closed Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	-	-	-	-	-	-	-	0	0
25-29	-	-	-	-	-	-	-	0	0
30-34	-	-	27	-	-	-	-	27	1,485,080
35-39	-	-	128	35	-	-	-	163	9,833,763
40-44	-	-	78	125	24	-	-	227	15,241,192
45-49	-	-	19	41	83	16	-	159	11,663,136
50-54	-	-	5	6	39	30	21	101	7,777,051
55-59	-	-	-	-	7	7	39	53	4,281,146
60-64	-	-	-	-	-	-	-	0	0
65-69	-	-	-	-	-	-	-	0	0
70+	-	-	-	-	-	-	-	0	0
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>257</b>	<b>207</b>	<b>153</b>	<b>53</b>	<b>60</b>	<b>730</b>	<b>\$50,281,368</b>

Average Age 44.2 years  
 Average Service 18.9 years  
 Average Pay \$68,879

### Year 2000 Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	50	-	-	-	-	-	-	50	1,940,910
25-29	87	25	-	-	-	-	-	112	4,907,449
30-34	21	102	-	-	-	-	-	123	5,888,724
35-39	19	49	-	-	-	-	-	68	3,132,384
40-44	4	12	-	-	-	-	-	16	753,065
45-49	1	3	-	-	-	-	-	4	177,411
50-54	-	1	-	-	-	-	-	1	46,063
55-59	-	1	-	-	-	-	-	1	50,679
60-64	-	-	-	-	-	-	-	0	0
65-69	-	-	-	-	-	-	-	0	0
70+	-	-	-	-	-	-	-	0	0
<b>Totals</b>	<b>182</b>	<b>193</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>375</b>	<b>\$16,896,685</b>

Average Age 30.7 years  
 Average Service 5.0 years  
 Average Pay \$45,058

Member data for actuarial valuation is as of May 31, 2010.

# Active Members By Attained Age and Years of Service

## Civilian Patrol

### Closed Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	-	-	-	-	-	-	-	0	0
25-29	-	-	-	-	-	-	-	0	0
30-34	-	-	23	2	-	-	-	25	939,559
35-39	-	-	30	12	-	-	-	42	1,683,686
40-44	-	-	40	29	18	2	-	89	3,705,273
45-49	-	-	27	40	26	28	1	122	5,176,402
50-54	-	-	30	18	37	31	26	142	6,040,162
55-59	-	-	28	18	24	19	16	105	4,510,257
60-64	-	-	14	12	17	5	4	52	1,890,215
65-69	-	-	3	-	1	-	-	4	103,265
70+	-	-	-	-	1	-	-	1	32,075
<b>Totals</b>	<b>0</b>	<b>0</b>	<b>195</b>	<b>131</b>	<b>124</b>	<b>85</b>	<b>47</b>	<b>582</b>	<b>\$24,080,894</b>

**Average Age** 49.5 years  
**Average Service** 19.4 years  
**Average Pay** \$41,376

### Year 2000 Plan

Attained Age	Counted by Complete Years of Service to Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30+	No.	Valuation Payroll
Under 20	-	-	-	-	-	-	-	0	\$0
20-24	30	-	-	-	-	-	-	30	803,857
25-29	79	26	-	-	-	-	-	105	3,448,643
30-34	53	48	-	-	-	-	-	101	3,446,447
35-39	38	34	-	-	-	-	-	72	2,306,275
40-44	32	31	-	-	-	-	-	63	2,052,894
45-49	29	31	-	-	-	-	-	60	1,884,681
50-54	30	23	-	-	-	-	-	53	1,625,095
55-59	17	19	-	-	-	-	-	36	1,056,311
60-64	13	20	-	-	-	-	-	33	965,303
65-69	3	5	-	-	-	-	-	8	236,118
70+	-	1	-	-	-	-	-	1	24,623
<b>Totals</b>	<b>324</b>	<b>238</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>562</b>	<b>\$17,850,247</b>

**Average Age** 39.7 years  
**Average Service** 4.5 years  
**Average Pay** \$31,762

Member data for actuarial valuation is as of May 31, 2010.

## Schedule of Active Member Valuation Data

Actuarial Valuation for June 30,	Number of Active Members	Covered Payroll	Average Pay	Percent Change in Average Pay from Prior Year
2001	9,087	327,049,257	35,991	5.60%
2002	8,695	312,747,492	35,969	-0.10%
2003	8,892	318,744,192	35,846	-0.30%
2004	9,002	328,210,887	36,460	1.70%
2005	9,193	345,695,867	37,604	3.10%
2006	9,033	348,614,699	38,593	2.60%
2007	8,640	360,842,421	41,764	8.20%
2008	8,599	369,424,653	42,961	2.90%
2009	8,784	377,652,245	42,993	0.10%
2010	8,457	369,911,252	43,740	<u>1.70%</u>
<b>Ten-Year Average</b>				<b>2.60%</b>

*Member data for actuarial valuation is as of May 31, 2010.*

# Solvency Test

The MPERS funding objective is to meet long term benefit promises through contributions that remain approximately level from year to year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System **will pay all promised benefits when due – the ultimate test of financial soundness.**

**A solvency test** is one means of checking a system's progress under its funding program. In a solvency test for a non-contributory plan, the plan's present assets (cash and investments) are compared with:  
1) The liabilities for future benefits to present retired lives and 2) The liabilities for service already

rendered by members. In a system that has been following the discipline of level percent of payroll financing, the liabilities for future benefits to present retired lives (liability 1) will be fully covered by present assets (except in rare circumstances). In addition, the liabilities for service already rendered by members (liability 2) will be partially covered by the remainder of present assets. The larger the funded portion of liability 2, the stronger the condition of the system.

The schedule below illustrates the history of liability 2 of the System.

Valuation Date June 30	(1) Retirees and Beneficiaries	(2) Active and Inactive Members	Present Valuation Assets	Portion of Present Values Covered by Present Assets		
				(1)	(2)	Total
-----Millions-----						
1999	\$1,132	\$921	\$1,243	100%	12%	61%
2000	1,238	951	1,423	100	19	65
2001	1,375	926	1,521	100	16	66
2002 *	1,470	888	1,451	99	0	62
2003	1,555	863	1,364	88	0	56
2004	1,626	867	1,332	82	0	53
2005 *	1,669	958	1,417	85	0	54
2006	1,734	1,007	1,521	88	0	56
2007 *	1,810	1,087	1,686	93	0	58
2008	1,873	1,147	1,784	95	0	59
2009	1,947	1,166	1,471	76	0	47
2010 *	2,034	1,225	1,376	68	0	42

\* New assumptions adopted



# Derivation of Financial Experience

Actual experience will never coincide exactly with assumed experience (except by coincidence). Gains and losses may offset each other over a period of years, but sizeable year-to-year variations from assumed experience are common. Detail on the derivation of the experience gain (loss) is shown below.

UAAL Beginning of Year (at July 1)	\$1,641,896,985
Normal Cost	50,271,428
Contributions	(124,476,706)
Interest	132,395,534
Net Change in LTD Assets	0
Expected UAAL Before Any Changes	1,700,087,241
Effect of Changes in Assumptions & Methods	64,761,506
Expected UAAL After Changes	1,764,848,747
End of Year UAAL (at June 30)	1,883,022,352
Gain/(Loss) for Year	\$(118,173,605)
Gain/(Loss) as a percent of actuarial accrued liabilities at start of year (\$3,113.4 million)	(3.8)%

Valuation Date June 30	Experience Gain (Loss) as % of Beginning Accrued Liability
1999	(7.7)%
2000	(.1)
2001	(9.3)
2002	(4.5)
2003	(5.2)
2004	(2.9)
2005	(1.5)
2006	1.4
2007	1.1
2008	(0.2)
2009	(12.6)%
<b>2010</b>	<b>(3.8)%</b>

# Schedule of Retirees and Beneficiaries Added and Removed

Valuation Date	Added to Rolls		Removed from Rolls		Rolls End of Year		Average Annual Allowances	% Increase	
	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances		in Annual Allowance	in Average Annual Allowance
FY2010									
Retirees	272	\$3,218,890	137	\$3,252,182	5,606	\$157,380,575	\$28,074	3.29%	0.80%
Beneficiaries	103	930,442	104	625,292	1,862	\$27,089,491	14,549	5.79%	5.85%
Disabilities	21*	0	25	73,638	142	\$903,107	6,360	-40.95%	-39.29%
FY2009									
Retirees	292	\$4,125,644	178	\$2,136,578	5,471	\$152,372,034	\$27,851	4.49%	2.31%
Beneficiaries	138	1,134,755	108	622,167	1,863	25,606,266	13,745	7.80%	6.07%
Disabilities	19*	0	28	71,381	146	1,529,412	10,475	-11.67%	-6.23%
FY2008									
Retirees	331	\$3,940,198	151	\$1,202,185	5,357	\$145,826,691	\$27,222	4.97%	1.45%
Beneficiaries	113	763,176	92	437,560	1,833	23,753,030	12,959	6.59%	5.37%
Disabilities	21*	54,465	32	57,913	155	1,731,521	11,171	-22.63%	-17.14%
FY2007									
Retirees	310	\$3,052,533	157	\$1,373,300	5,177	\$138,917,326	\$26,834	4.87%	1.77%
Beneficiaries	131	51,253	112	617,163	1,812	22,283,555	12,298	8.09%	6.96%
Disabilities	36*	0	24	116,307	166	2,237,892	13,481	38.31%	28.31%
FY2006									
Retirees	252	\$3,005,557	166	\$1,477,199	5,024	\$132,465,613	\$26,367	3.89%	1.74%
Beneficiaries	106	715,154	75	381,966	1,793	20,615,839	11,498	7.09%	5.24%
Disabilities	22	170,138	22	106,561	154	1,618,075	10,507	9.70%	8.99%
FY2005									
Retirees	202	\$4,685,700	125	\$2,373,810	4,920	\$127,508,904	\$25,916	3.53%	1.91%
Beneficiaries	106	1,527,938	79	618,487	1,762	19,251,121	10,926	7.95%	6.29%
Disabilities	7	95,296	7	47,561	153	1,474,983	9,640	-1.86%	-1.86%
FY2004									
Retirees	295	\$7,389,209	143	\$2,239,625	4,843	\$123,159,002	\$25,430	5.95%	2.62%
Beneficiaries	114	1,423,712	89	557,685	1,735	17,833,685	10,279	7.64%	6.08%
Disabilities	9	87,586	11	36,938	153	1,502,868	9,823	-19.77%	-18.72%
FY2003									
Retirees	249	\$6,319,872	101	\$2,062,469	4,691	\$116,243,532	\$24,780	6.24%	2.89%
Beneficiaries	121	1,627,820	91	650,474	1,710	16,568,589	9,689	9.58%	7.66%
Disabilities	20	180,624	22	43,088	155	1,873,102	12,085	36.86%	38.62%
FY2002									
Retirees	303	\$8,089,425	134	\$2,193,413	4,543	\$109,416,172	\$24,085	7.59%	3.59%
Beneficiaries	119	1,768,570	76	369,662	1,680	15,120,376	9,000	11.53%	8.68%
Disabilities	17	168,853	41	180,231	157	1,368,640	8,717	-11.88%	1.59%
FY2001									
Retirees	531	\$13,546,408	111	\$1,630,433	4,374	\$101,693,353	\$23,250	21.66%	9.97%
Beneficiaries	108	1,447,292	112	412,086	1,637	13,556,769	8,281	10.62%	10.89%
Disabilities	6	70,722	87	1,001,360	181	1,553,154	8,581	-28.20%	3.93%

\*Most new disabilities are covered / paid by the Standard Insurance Co.  
Data of this chart is as of June 30, 2010.

# Summary of Plan Provisions \*

## Comparison of the Closed Plan and the Year 2000 Plan For the Year Ended June 30, 2010

Plan Provision	Closed Plan	Year 2000 Plan
<b>Membership Eligibility</b>	<ul style="list-style-type: none"> <li>Members who work in a position normally requiring at least 1,040 hours of work a year.</li> </ul>	<ul style="list-style-type: none"> <li>Members hired for the first time on or after July 1, 2000, in a position requiring at least 1,040 hours of work a year.</li> <li>Members who left state employment prior to becoming vested and return to work on or after July 1, 2000, in a position normally requiring at least 1,040 hours of work a year.</li> </ul>
<b>Normal Retirement Eligibility</b>	<ul style="list-style-type: none"> <li>Age 65 &amp; active with 4 years of service.</li> <li>Age 65 with 5 years of service.</li> <li>Age 60 with 15 years of service.</li> <li>"Rule of 80"/minimum age 48.</li> </ul> <u>Uniformed Members Only:</u> <ul style="list-style-type: none"> <li>Age 55 with 4 years of service.</li> <li>Age 60 – mandatory with 5 years of service.</li> </ul>	<ul style="list-style-type: none"> <li>Age 62 with 5 years of service.</li> <li>"Rule of 80" / minimum age 48.</li> </ul> <u>Uniformed Members Only:</u> <ul style="list-style-type: none"> <li>Age 60 – mandatory with 5 years of service.</li> </ul>
<b>Early Retirement Eligibility</b>	<ul style="list-style-type: none"> <li>Age 55 with 10 years creditable service.</li> </ul>	<ul style="list-style-type: none"> <li>Age 57 with 5 years creditable service.</li> </ul>
<b>Benefit</b> Life Benefit	1.6% x FAP** x service (Base benefit is increased by 33 1/3% for uniformed patrol members only.)	1.7% x FAP** x service
Temporary Benefit	Not available.	0.8% x FAP** x service (until age 62 – only if retiring under "Rule of 80").
<b>Vesting</b>	5 years of service.	5 years of service.
<b>COLA</b> (Cost-of-Living Allowance)	<ul style="list-style-type: none"> <li>If hired before August 28, 1997, annual COLA is a minimum of 4%, maximum 5%, based on 80% of the increase in the CPI-U over the previous year, up to a maximum of 65% of original benefit. <ul style="list-style-type: none"> <li>After 65% cap is reached, annual COLA increase will be equal to 80% of the change in the CPI-U, with a maximum of 5%.</li> </ul> </li> <li>If hired after August 28, 1997, annual COLAs will be equal to 80% of the increase in the CPI-U, maximum 5%, with no guaranteed minimum.</li> </ul>	<ul style="list-style-type: none"> <li>Annual COLA is equal to 80% of the change in the CPI-U with a maximum rate of 5%.</li> </ul>
<b>Survivor Benefit</b> (Death before retirement) Non Duty-Related Death	<ul style="list-style-type: none"> <li>Survivor benefit to eligible spouse calculated using the Joint &amp; 100% survivor option or 80% of the member's life income annuity paid to eligible children under age 21.</li> <li>If at least 3, but less than 5, years of service the survivor benefit is calculated using 25% of the member's base benefit calculated as if the member retired on their date of death.</li> </ul>	<ul style="list-style-type: none"> <li>Survivor benefit to eligible spouse calculated using the Joint &amp; 100% survivor option or 80% of the member's life income annuity paid to eligible children under age 21.</li> </ul>
Duty-Related Death	<ul style="list-style-type: none"> <li>Survivor benefit to eligible spouse or children no less than 50% of final average pay (no service requirement).</li> </ul>	<ul style="list-style-type: none"> <li>Survivor benefit to eligible spouse or children no less than 50% of final average pay (no service requirement).</li> </ul>
<b>Optional Forms of Payment</b>	Payment options include: <ul style="list-style-type: none"> <li>Life Income Annuity</li> <li>Unreduced Joint &amp; 50% Survivor</li> <li>Joint &amp; 100% Survivor</li> <li>60 or 120 Guaranteed Payments</li> <li>BackDROP</li> </ul>	Payment options include: <ul style="list-style-type: none"> <li>Life Income Annuity</li> <li>Unreduced Joint &amp; 50% Survivor</li> <li>Joint &amp; 100% Survivor</li> <li>120 or 180 Guaranteed Payments</li> <li>BackDROP</li> </ul>
<b>Disability</b>	Long-Term Disability and Work-Related Disability	Long-Term Disability and Work-Related Disability

\*This summary describes the plan provisions of the Revised Statutes of Missouri (RSMo), as amended, that governed the programs, which MPERS administered during the period covered by this report. It does not overrule any applicable statute or administrative rule and, in the event of a conflict, the applicable statute or rule would apply. The Year 2000 Plan was effective July 1, 2000. A complete summary is available at the MPERS office.

\*\*Final Average Pay – average of highest 36 consecutive months of pay.

# Legislative Changes

Governor Jay Nixon signed House Bill 1 into law on July 19, 2010. This legislation created a new tier of benefits within the Year 2000 Plan for new employees hired for the first time on or after January 1, 2011. The following benefit changes were enacted for the 2011 Tier:

- Changes normal retirement eligibility to coincide with the current minimum eligibility age of 67 for unreduced social security benefits for those born after 1959. The normal retirement age for highway patrol officers is age 55.
- Rule of 80 was increased to a Rule of 90 and the corresponding minimum eligibility age was increased from age 48 to age 55.
- The age for early retirement for non-uniformed employees was increased from age 57 to age 62 (early retirement benefit is reduced).
- Five-year vesting was increased to ten-year vesting.
- Member contributions were reinstated equivalent to 4% of pay on a pretax basis; 4% interest would be paid on member accounts at the end of the fiscal year based on the beginning fiscal year balance. Refunds would be payable after 90 days of termination, or request, for those qualifying for refunds. Member contributions and interest are fully refundable and portable, including for non-vested employees who terminate and leave state service.
- Elimination of subsidized service purchases. This would include elimination of purchases of military and other full-time nonfederal governmental service.
- Elimination of portability between certain systems, provided under Section 104.1090.
- Elimination of the BackDROP provision that was enacted in 2002.

During the 2010 Regular Session, House Bill 1868 was enacted creating a Division of Water Patrol within the Missouri State Highway Patrol effective January 1, 2011. Water Patrol employees currently employed within the Department of Public Safety will have the option of transferring their service and membership from the Missouri State Employees' Retirement System (MOSERS) to MPERS. For each employee electing to transfer his/her membership and creditable service, MOSERS will pay MPERS an actuarially determined amount equal to the liability at the time of the transfer. Membership for those electing to transfer to MPERS will begin July 1, 2011.



*An actuarial valuation is performed at the end of each fiscal year to measure the overall financial condition of the retirement system. The valuation also provides the basis for determining the contribution rates needed to adequately fund the System.*

*To ensure the assumptions used in the valuation are current and accurate, an in-depth experience study is conducted every 5 years. The experience study examines economic factors (e.g. inflation and investment return), and non-economic factors (e.g. rates of turnover, retirement, mortality, etc).*

*We are proud to report that MPERS is “Weathering the Storm” and we continue to work with our advisors and sponsors to chart a safe and successful course to a bright future.*

# Statistical Section



# STATISTICAL SUMMARY

## **Changes in Net Assets**

The chart on page 58 details a 10-year history of the additions (revenues) and deductions (expenses) of MPERS.

The chart on page 59 details a 10-year history of benefit payments by type.

## **Plan Membership**

Overall, MPERS' membership decreased by 201. Retired members and their beneficiaries increased by 130, terminated-vested members increased by 62, and active members decreased by 393.

The charts beginning on page 60 detail the number of retired members by type of benefit and the average monthly benefit payments.

Other charts and graphs in this section detail demographic information concerning our members and employers.

All non-accounting data in this section was derived from internal sources and the annual actuarial valuation reports. Member data may differ between some schedules since the valuations are performed using data as of May 31 each year.

**MoDOT and Patrol Employees' Retirement System**  
**Changes in Net Assets, Last Ten Fiscal Years**

## Changes in Net Assets

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b><u>Additions</u></b>										
Employer Contributions	\$81,155,196	\$77,440,468	\$76,806,313	\$86,724,914	\$102,240,145	\$111,271,679	\$121,264,532	\$123,335,151	\$122,599,301	\$124,052,534
Other Contributions	197,823	640,254	2,584,257	842,665	364,680	271,038	529,926	1,192,527	444,000	424,172
Net Investment Income	(32,956,576)	(88,252,400)	36,526,003	180,910,907	144,641,068	212,206,238	283,549,424	(42,915,886)	(426,265,311)	166,307,054
Other Income	0	0	0	33,851	31,104	41,542	31,580	31,546	33,571	33,145
<b>Total Additions to Plan Net Assets</b>	<b>48,396,443</b>	<b>(10,171,678)</b>	<b>115,916,573</b>	<b>268,512,337</b>	<b>247,276,997</b>	<b>323,790,497</b>	<b>405,375,462</b>	<b>81,643,338</b>	<b>(303,188,439)</b>	<b>290,816,905</b>
<b><u>Deductions</u></b>										
Benefit Payments	111,985,064	133,498,818	144,334,345	154,987,027	157,742,337	164,997,406	175,970,479	185,801,362	192,013,250	196,721,274
Administrative Expenses	835,215	1,334,555	1,451,855	1,639,133	1,916,592	1,927,594	2,120,764	2,371,215	2,339,501	2,512,181
<b>Total Deductions from Plan Net Assets</b>	<b>112,820,279</b>	<b>134,833,373</b>	<b>145,786,200</b>	<b>156,626,160</b>	<b>159,658,929</b>	<b>166,925,000</b>	<b>178,091,243</b>	<b>188,172,577</b>	<b>194,352,751</b>	<b>199,233,455</b>
<b>Change in Net Assets</b>	<b>\$(64,423,836)</b>	<b>\$(145,005,051)</b>	<b>\$(29,869,627)</b>	<b>\$111,886,177</b>	<b>\$87,618,068</b>	<b>\$156,865,497</b>	<b>\$227,284,219</b>	<b>\$(106,529,239)</b>	<b>\$(497,541,190)</b>	<b>\$91,583,450</b>

## Benefit Payments By Type

### MoDOT and Patrol Employees' Retirement System Benefit Payments by Type, Last Ten Fiscal Years

Type of Benefit	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b><u>Age and Service Benefits:</u></b>										
Retiree and Survivor Annuity Payments	\$111,189,631	\$121,786,745	\$131,689,970	\$138,767,316	\$145,118,809	\$151,647,091	\$159,145,368	\$167,654,271	\$175,588,494	\$183,103,253
BackDROP Payments	0	10,771,393	11,696,862	14,318,622	8,880,770	9,721,059	13,177,432	14,631,932	12,859,452	10,358,181
<b><u>Disability Benefits:</u></b>										
Long-Term Disability	490,433	515,680	537,513	555,434	475,948	386,026	288,908	223,501	179,239	137,624
Work-Related Disability <sup>(1)</sup>	0	0	0	633,299	718,248	747,723	703,159	728,507	692,043	664,469
Normal Disability <sup>(1)</sup>	0	0	0	302,356	295,776	244,208	220,490	207,417	186,349	163,485
Insured Disability <sup>(2)</sup>	0	0	0	0	1,837,786	1,796,299	1,905,122	1,835,734	1,847,673	1,759,262
<b>Death Benefits</b>	305,000	425,000	410,000	410,000	415,000	455,000	530,000	520,000	660,000	535,000
<b>Total Benefits</b>	<u>\$111,985,064</u>	<u>\$133,498,818</u>	<u>\$144,334,345</u>	<u>\$154,987,027</u>	<u>\$157,742,337</u>	<u>\$164,997,406</u>	<u>\$175,970,479</u>	<u>\$185,801,362</u>	<u>\$192,013,250</u>	<u>\$196,721,274</u>

<sup>(1)</sup> Prior to FY04, work-related and normal disabilities were reported as retiree benefits.

<sup>(2)</sup> Outsourced LTD program began 07/01/04.

# Schedule of Retired Members By Type of Benefit

## All Members\*

Amount of Monthly Benefit	Type of Benefit					Survivor	Total Recipients
	Retirement		Disability				
	Normal	Early	Normal	Work-Related	Long-Term		
<200	22	52	4	20	49	149	296
201 - 400	107	125	3	1	9	264	509
401 - 600	136	107	1	0	9	253	506
601 - 800	157	60	5	1	2	210	435
801 - 1000	203	37	1	3	1	161	406
1001 - 1200	229	15	3	1	0	129	377
1201 - 1400	296	10	2	3	1	106	418
1401 - 1600	285	6	1	5	0	91	388
1601 - 1800	331	3	0	3	0	73	410
1801 - 2000	352	4	0	8	0	65	429
2001 - 2200	319	1	0	1	0	59	380
2201 - 2400	331	1	0	0	0	48	380
2401 - 2600	329	0	0	3	0	39	371
2601 - 2800	303	0	0	0	0	46	349
2801 - 3000	226	1	0	1	0	29	257
> 3000	1,558	0	0	1	0	140	1,699
TOTALS	5,184	422	20	51	71	1,862	7,610

\* This chart includes six retirement system staff retirees

## MoDOT

Amount of Monthly Benefit	Type of Benefit					Survivor	Total Recipients
	Retirement		Disability				
	Normal	Early	Normal	Work-Related	Long-Term		
<200	18	37	4	19	45	139	262
201 - 400	80	101	3	1	9	246	440
401 - 600	101	91	1	0	6	226	425
601 - 800	114	54	5	1	2	185	361
801 - 1000	163	30	1	3	1	144	342
1001 - 1200	194	14	3	1	0	114	326
1201 - 1400	254	9	2	3	1	88	357
1401 - 1600	251	6	1	5	0	68	331
1601 - 1800	294	3	0	3	0	64	364
1801 - 2000	299	4	0	4	0	49	356
2001 - 2200	269	1	0	1	0	40	311
2201 - 2400	273	1	0	0	0	29	303
2401 - 2600	291	0	0	3	0	27	321
2601 - 2800	266	0	0	0	0	32	298
2801 - 3000	203	1	0	1	0	22	227
> 3000	891	0	0	0	0	111	1,002
TOTALS	3,961	352	20	45	64	1,584	6,026

# Schedule of Retired Members By Type of Benefit (continued)

## Uniformed Patrol

Amount of Monthly Benefit	Type of Benefit						Total Recipients
	Retirement		Disability			Survivor	
	Normal	Early	Normal	Work-Related	Long-Term		
<200	0	0	0	0	0	1	1
201 - 400	1	0	0	0	0	3	4
401 - 600	13	0	0	0	0	7	20
601 - 800	9	0	0	0	0	9	18
801 - 1000	3	0	0	0	0	5	8
1001 - 1200	4	0	0	0	0	4	8
1201 - 1400	2	0	0	0	0	4	6
1401 - 1600	2	0	0	0	0	14	16
1601 - 1800	2	0	0	0	0	5	7
1801 - 2000	5	0	0	2	0	14	21
2001 - 2200	4	0	0	0	0	15	19
2201 - 2400	1	0	0	0	0	16	17
2401 - 2600	2	0	0	0	0	12	14
2601 - 2800	2	0	0	0	0	10	12
2801 - 3000	8	0	0	0	0	7	15
> 3000	580	0	0	1	0	26	607
TOTALS	638	0	0	3	0	152	793

## Civilian Patrol

Amount of Monthly Benefit	Type of Benefit					Survivor	Total Recipients
	Retirement		Disability				
	Normal	Early	Normal	Work-Related	Long-Term		
<200	3	15	0	1	4	9	32
201 - 400	26	24	0	0	0	15	65
401 - 600	22	16	0	0	3	20	61
601 - 800	34	6	0	0	0	16	56
801 - 1000	37	7	0	0	0	12	56
1001 - 1200	30	1	0	0	0	11	42
1201 - 1400	40	1	0	0	0	14	55
1401 - 1600	32	0	0	0	0	9	41
1601 - 1800	35	0	0	0	0	4	39
1801 - 2000	48	0	0	2	0	2	52
2001 - 2200	46	0	0	0	0	4	50
2201 - 2400	57	0	0	0	0	3	60
2401 - 2600	36	0	0	0	0	0	36
2601 - 2800	34	0	0	0	0	4	38
2801 - 3000	15	0	0	0	0	0	15
> 3000	84	0	0	0	0	3	87
TOTALS	579	70	0	3	7	126	785

# Schedule of Average Monthly Benefit Payments

## MoDOT

### By Years of Service

Retired In Fiscal Year		0 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 +
<b>2001</b>	<b>Average Benefit</b>	<b>\$310</b>	<b>521</b>	<b>779</b>	<b>1,266</b>	<b>1,966</b>	<b>2,478</b>	<b>2,800</b>	<b>3,987</b>
2001	Average FAP	\$1,709	1,431	985	2,084	2,750	3,414	3,706	4,341
<b>2001</b>	<b>Current Retirees</b>	<b>18</b>	<b>20</b>	<b>19</b>	<b>31</b>	<b>73</b>	<b>147</b>	<b>61</b>	<b>25</b>
<b>2002</b>	<b>Average Benefit</b>	<b>\$441</b>	<b>630</b>	<b>796</b>	<b>1,208</b>	<b>2,225</b>	<b>2,710</b>	<b>2,668</b>	<b>2,966</b>
2002	Average FAP	\$2,216	1,678	2,185	2,510	3,144	3,763	4,096	4,041
<b>2002</b>	<b>Current Retirees</b>	<b>1</b>	<b>17</b>	<b>11</b>	<b>28</b>	<b>55</b>	<b>59</b>	<b>30</b>	<b>19</b>
<b>2003</b>	<b>Average Benefit</b>	<b>\$370</b>	<b>514</b>	<b>738</b>	<b>1,151</b>	<b>2,599</b>	<b>2,509</b>	<b>2,541</b>	<b>3,407</b>
2003	Average FAP	\$2,122	1,757	1,827	2,374	2,951	3,358	3,730	3,796
<b>2003</b>	<b>Current Retirees</b>	<b>13</b>	<b>8</b>	<b>10</b>	<b>20</b>	<b>47</b>	<b>36</b>	<b>30</b>	<b>14</b>
<b>2004</b>	<b>Average Benefit</b>	<b>\$358</b>	<b>612</b>	<b>1,016</b>	<b>1,236</b>	<b>2,158</b>	<b>2,705</b>	<b>2,450</b>	<b>3,495</b>
2004	Average FAP	\$3,034	2,512	2,816	2,564	2,875	3,539	3,689	4,642
<b>2004</b>	<b>Current Retirees</b>	<b>10</b>	<b>15</b>	<b>19</b>	<b>23</b>	<b>64</b>	<b>59</b>	<b>25</b>	<b>8</b>
<b>2005</b>	<b>Average Benefit</b>	<b>\$391</b>	<b>458</b>	<b>782</b>	<b>1,427</b>	<b>2,332</b>	<b>2,391</b>	<b>2,892</b>	<b>3,161</b>
2005	Average FAP	\$2,741	1,951	2,600	2,777	3,372	3,304	3,988	3,937
<b>2005</b>	<b>Current Retirees</b>	<b>12</b>	<b>18</b>	<b>19</b>	<b>10</b>	<b>50</b>	<b>22</b>	<b>19</b>	<b>7</b>
<b>2006</b>	<b>Average Benefit</b>	<b>\$354</b>	<b>600</b>	<b>849</b>	<b>1,333</b>	<b>2,344</b>	<b>2,581</b>	<b>3,340</b>	<b>3,295</b>
2006	Average FAP	\$3,177	2,423	2,750	2,967	3,384	3,379	4,093	4,086
<b>2006</b>	<b>Current Retirees</b>	<b>12</b>	<b>16</b>	<b>17</b>	<b>25</b>	<b>59</b>	<b>33</b>	<b>10</b>	<b>7</b>
<b>2007</b>	<b>Average Benefit</b>	<b>\$275</b>	<b>508</b>	<b>756</b>	<b>1,430</b>	<b>2,349</b>	<b>2,962</b>	<b>3,099</b>	<b>3,042</b>
2007	Average FAP	\$2,139	2,425	2,357	2,935	3,304	3,665	3,970	3,938
<b>2007</b>	<b>Current Retirees</b>	<b>22</b>	<b>26</b>	<b>21</b>	<b>29</b>	<b>70</b>	<b>38</b>	<b>15</b>	<b>7</b>
<b>2008</b>	<b>Average Benefit</b>	<b>\$276</b>	<b>713</b>	<b>837</b>	<b>1,711</b>	<b>2,334</b>	<b>3,027</b>	<b>2,732</b>	<b>3,125</b>
2008	Average FAP	\$2,274	2,430	3,004	3,391	3,435	3,920	3,513	4,463
<b>2008</b>	<b>Current Retirees</b>	<b>31</b>	<b>29</b>	<b>25</b>	<b>35</b>	<b>59</b>	<b>52</b>	<b>18</b>	<b>5</b>
<b>2009</b>	<b>Average Benefit</b>	<b>\$292</b>	<b>579</b>	<b>974</b>	<b>1,802</b>	<b>2,389</b>	<b>2,809</b>	<b>3,127</b>	<b>3,515</b>
2009	Average FAP	\$2,540	2,957	3,472	3,488	3,565	3,697	3,920	4,539
<b>2009</b>	<b>Current Retirees</b>	<b>27</b>	<b>17</b>	<b>15</b>	<b>40</b>	<b>41</b>	<b>46</b>	<b>16</b>	<b>5</b>
<b>2010</b>	<b>Average Benefit</b>	<b>\$278</b>	<b>772</b>	<b>1,061</b>	<b>1,748</b>	<b>2,451</b>	<b>2,989</b>	<b>3,068</b>	<b>2,942</b>
2010	Average FAP	\$2,388	2,726	3,335	3,525	3,634	4,014	4,015	4,008
<b>2010</b>	<b>Current Retirees</b>	<b>26</b>	<b>26</b>	<b>17</b>	<b>37</b>	<b>63</b>	<b>39</b>	<b>3</b>	<b>3</b>

FAP = Final Average Pay



# Schedule of Average Monthly Benefit Payments (continued)

## Uniformed Patrol

### By Years of Service

Retired In Fiscal Year		0-10	11-15	16-20	21-25	26-30	31-35	36-40	41+
<b>2001</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>615</b>	<b>0</b>	<b>0</b>	<b>3,835</b>	<b>5,049</b>	<b>5,871</b>	<b>6,365</b>
2001	Average FAP	\$0	801	0	0	4,451	4,951	5,341	5,352
<b>2001</b>	<b>Current Retirees</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>4</b>	<b>1</b>
<b>2002</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>786</b>	<b>1,979</b>	<b>3,593</b>	<b>4,239</b>	<b>5,133</b>	<b>5,525</b>	<b>7,087</b>
2002	Average FAP	\$0	2,564	3,580	4,566	4,784	5,339	5,386	5,624
<b>2002</b>	<b>Current Retirees</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>11</b>	<b>9</b>	<b>1</b>
<b>2003</b>	<b>Average Benefit</b>	<b>\$411</b>	<b>533</b>	<b>0</b>	<b>0</b>	<b>3,877</b>	<b>4,909</b>	<b>4,869</b>	<b>0</b>
2003	Average FAP	\$525	1,514	0	0	4,415	5,247	4,929	0
<b>2003</b>	<b>Current Retirees</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>6</b>	<b>7</b>	<b>0</b>
<b>2004</b>	<b>Average Benefit</b>	<b>\$636</b>	<b>443</b>	<b>1,613</b>	<b>0</b>	<b>3,561</b>	<b>4,360</b>	<b>4,824</b>	<b>5,377</b>
2004	Average FAP	\$2,295	992	3,000	0	4,377	4,844	5,171	5,078
<b>2004</b>	<b>Current Retirees</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>9</b>	<b>8</b>	<b>6</b>	<b>1</b>
<b>2005</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>678</b>	<b>1,387</b>	<b>2,750</b>	<b>3,721</b>	<b>3,944</b>	<b>5,438</b>	<b>5,794</b>
2005	Average FAP	\$0	2,386	2,772	3,870	4,903	4,856	5,362	5,158
<b>2005</b>	<b>Current Retirees</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>1</b>
<b>2006</b>	<b>Average Benefit</b>	<b>\$430</b>	<b>0</b>	<b>1,411</b>	<b>0</b>	<b>3,485</b>	<b>4,246</b>	<b>4,824</b>	<b>0</b>
2006	Average FAP	\$1,628	0	3,007	0	4,884	5,214	5,004	0
<b>2006</b>	<b>Current Retirees</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>10</b>	<b>1</b>	<b>0</b>
<b>2007</b>	<b>Average Benefit</b>	<b>\$573</b>	<b>727</b>	<b>960</b>	<b>0</b>	<b>3,547</b>	<b>4,646</b>	<b>5,200</b>	<b>0</b>
2007	Average FAP	\$2,292	2,260	2,475	0	5,287	5,684	5,514	0
<b>2007</b>	<b>Current Retirees</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>12</b>	<b>5</b>	<b>0</b>
<b>2008</b>	<b>Average Benefit</b>	<b>\$466</b>	<b>0</b>	<b>1,786</b>	<b>0</b>	<b>4,134</b>	<b>4,201</b>	<b>4,743</b>	<b>0</b>
2008	Average FAP	\$1,898	0	3,969	0	6,098	5,253	5,575	0
<b>2008</b>	<b>Current Retirees</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>3</b>	<b>0</b>
<b>2009</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>693</b>	<b>0</b>	<b>1,962</b>	<b>4,077</b>	<b>4,218</b>	<b>4,625</b>	<b>5,780</b>
2009	Average FAP	\$0	2,557	0	3,711	6,140	5,741	5,565	5,974
<b>2009</b>	<b>Current Retirees</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>6</b>	<b>16</b>	<b>6</b>	<b>1</b>
<b>2010</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>844</b>	<b>1,156</b>	<b>0</b>	<b>3,770</b>	<b>5,029</b>	<b>6,138</b>	<b>0</b>
2010	Average FAP	\$0	2,749	3,072	0	5,625	6,619	7,410	0
<b>2010</b>	<b>Current Retirees</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>9</b>	<b>1</b>	<b>0</b>

FAP = Final Average Pay

# Schedule of Average Monthly Benefit Payments (continued)

## Civilian Patrol

### By Years of Service

Retired In Fiscal Year		0-10	11-15	16-20	21-25	26-30	31-35	36-40	41+
<b>2001</b>	<b>Average Benefit</b>	<b>\$304</b>	<b>0</b>	<b>921</b>	<b>1,236</b>	<b>1,968</b>	<b>2,486</b>	<b>2,917</b>	<b>2,999</b>
2001	Average FAP	\$1,475	0	1,936	1,939	2,911	3,158	3,632	3,176
<b>2001</b>	<b>Current Retirees</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>13</b>	<b>23</b>	<b>6</b>	<b>2</b>
<b>2002</b>	<b>Average Benefit</b>	<b>\$196</b>	<b>350</b>	<b>480</b>	<b>1,043</b>	<b>2,167</b>	<b>2,224</b>	<b>2,175</b>	<b>0</b>
2002	Average FAP	\$1,767	1,525	1,702	2,129	2,827	3,215	3,209	0
<b>2002</b>	<b>Current Retirees</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>0</b>
<b>2003</b>	<b>Average Benefit</b>	<b>\$431</b>	<b>469</b>	<b>724</b>	<b>1,087</b>	<b>2,185</b>	<b>1,949</b>	<b>2,155</b>	<b>2,274</b>
2003	Average FAP	\$2,221	1,405	2,425	2,490	2,720	2,855	3,611	3,001
<b>2003</b>	<b>Current Retirees</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>10</b>	<b>15</b>	<b>3</b>	<b>3</b>
<b>2004</b>	<b>Average Benefit</b>	<b>\$258</b>	<b>451</b>	<b>610</b>	<b>1,176</b>	<b>1,880</b>	<b>2,418</b>	<b>2,460</b>	<b>3,510</b>
2004	Average FAP	\$1,985	2,055	2,025	2,353	2,768	3,021	3,440	5,259
<b>2004</b>	<b>Current Retirees</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>4</b>	<b>10</b>	<b>8</b>	<b>6</b>	<b>1</b>
<b>2005</b>	<b>Average Benefit</b>	<b>\$251</b>	<b>411</b>	<b>726</b>	<b>1,031</b>	<b>2,754</b>	<b>3,702</b>	<b>1,855</b>	<b>3,542</b>
2005	Average FAP	\$1,298	1,841	2,240	1,780	3,285	4,044	2,522	4,422
<b>2005</b>	<b>Current Retirees</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>1</b>	<b>1</b>
<b>2006</b>	<b>Average Benefit</b>	<b>\$174</b>	<b>465</b>	<b>631</b>	<b>1,077</b>	<b>2,594</b>	<b>2,909</b>	<b>3,121</b>	<b>0</b>
2006	Average FAP	\$2,080	2,066	2,003	2,537	3,343	3,439	3,189	0
<b>2006</b>	<b>Current Retirees</b>	<b>4</b>	<b>5</b>	<b>2</b>	<b>11</b>	<b>7</b>	<b>12</b>	<b>3</b>	<b>0</b>
<b>2007</b>	<b>Average Benefit</b>	<b>\$292</b>	<b>475</b>	<b>537</b>	<b>1,161</b>	<b>2,540</b>	<b>2,657</b>	<b>2,500</b>	<b>0</b>
2007	Average FAP	\$1,853	1,924	2,082	2,491	3,600	3,023	2,868	0
<b>2007</b>	<b>Current Retirees</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>13</b>	<b>2</b>	<b>0</b>
<b>2008</b>	<b>Average Benefit</b>	<b>\$244</b>	<b>526</b>	<b>801</b>	<b>1,285</b>	<b>1,810</b>	<b>2,988</b>	<b>3,856</b>	<b>0</b>
2008	Average FAP	\$2,186	2,609	2,693	2,658	2,753	3,756	4,151	0
<b>2008</b>	<b>Current Retirees</b>	<b>6</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>8</b>	<b>12</b>	<b>1</b>	<b>0</b>
<b>2009</b>	<b>Average Benefit</b>	<b>\$244</b>	<b>339</b>	<b>530</b>	<b>0</b>	<b>2,600</b>	<b>2,684</b>	<b>2,232</b>	<b>2,044</b>
2009	Average FAP	\$2,206	1,874	2,135	0	3,690	3,333	2,865	2,679
<b>2009</b>	<b>Current Retirees</b>	<b>5</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>11</b>	<b>9</b>	<b>3</b>	<b>2</b>
<b>2010</b>	<b>Average Benefit</b>	<b>\$360</b>	<b>842</b>	<b>851</b>	<b>1,136</b>	<b>3,107</b>	<b>2,426</b>	<b>3,950</b>	<b>0</b>
2010	Average FAP	\$2,506	2,437	2,795	2,625	4,289	3,188	5,179	0
<b>2010</b>	<b>Current Retirees</b>	<b>9</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>0</b>

FAP = Final Average Pay

# Schedule of Average Monthly Benefit Payments (continued)

## MPERS

### By Years of Service

Retired In Fiscal Year		0-10	11-15	16-20	21-25	26-30	31-35	36-40	41+
<b>2003</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,774</b>	<b>0</b>	<b>0</b>	<b>0</b>
2003	Average FAP	\$0	0	0	0	3,232	0	0	0
<b>2003</b>	<b>Current Retirees</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>2006</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,316</b>	<b>0</b>	<b>0</b>
2006	Average FAP	\$0	0	0	0	0	4,178	0	0
<b>2006</b>	<b>Current Retirees</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
<b>2007</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>0</b>	<b>1,025</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
2007	Average FAP	\$0	0	3,081	0	0	0	0	0
<b>2007</b>	<b>Current Retirees</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>2009</b>	<b>Average Benefit</b>	<b>\$0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4,327</b>	<b>0</b>	<b>6,897</b>
2009	Average FAP	\$0	0	0	0	0	5,922	0	9,989
<b>2009</b>	<b>Current Retirees</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>

Note: There were no retirements during the years not shown above.

FAP = Final Average Pay

## Active Member Data

### Schedule of Participating Employers

	MoDOT		Patrol		MPERS		Total	
	Employees	%	Employees	%	Employees	%	Employees	%
2001	6,969	76.53	2,133	23.43	4	0.04	9,106	100
2002	6,590	75.70	2,106	24.19	10	0.11	8,706	100
2003	6,716	75.50	2,169	24.39	10	0.11	8,895	100
2004	6,848	76.07	2,143	23.81	11	0.12	9,002	100
2005	6,980	76.15	2,174	23.72	12	0.13	9,166	100
2006	6,839	75.91	2,159	23.96	12	0.13	9,010	100
2007	6,459	74.76	2,168	25.10	12	0.14	8,639	100
2008	6,376	74.30	2,192	25.55	13	0.15	8,581	100
2009	6,601	74.90	2,199	24.95	13	0.15	8,813	100
2010	6,164	73.21	2,243	26.64	13	0.15	8,420	100

Data for this chart is as of June 30, 2010.

# Active Member Data

## For the Year Ended June 30, 2010

### By Age

#### Closed Plan

Age	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
< 21	0	0	0	0	0
21 - 25	0	0	0	0	0
26 - 30	28	25	2	0	1
31 - 35	303	216	28	59	0
36 - 40	730	472	56	200	2
41 - 45	961	653	102	204	2
46 - 50	1,154	877	132	145	0
51 - 55	940	718	130	88	4
56 - 60	466	356	83	27	0
61 - 65	130	95	35	0	0
66 +	21	19	2	0	0
<b>Total</b>	<b>4,733</b>	<b>3,431</b>	<b>570</b>	<b>723</b>	<b>9</b>
<b>Average Age</b>		<b>47</b>	<b>48</b>	<b>43</b>	<b>44</b>

#### Year 2000 Plan

Age	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
< 21	10	9	1	0	0
21 - 25	377	233	56	88	0
26 - 30	745	514	112	118	1
31 - 35	652	459	88	105	0
36 - 40	522	399	75	46	2
41 - 45	425	342	68	14	1
46 - 50	418	355	63	0	0
51 - 55	279	228	49	2	0
56 - 60	172	138	34	0	0
61 - 65	76	51	25	0	0
66 +	11	5	6	0	0
<b>Total</b>	<b>3,687</b>	<b>2,733</b>	<b>577</b>	<b>373</b>	<b>4</b>
<b>Average Age</b>		<b>37</b>	<b>38</b>	<b>30</b>	<b>37</b>

# Active Member Data

## For the Year Ended June 30, 2010

### By Years of Service

#### Closed Plan

Years of Service	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
<1	0	0	0	0	0
1 - 5	0	0	0	0	0
6 - 10	371	302	35	33	1
11 - 15	1,471	1,005	192	272	2
16 - 20	1,188	870	120	196	2
21 - 25	947	714	113	119	1
26 - 30	471	332	78	60	1
31 - 35	235	170	29	34	2
36 - 40	44	32	3	9	0
41 - 45	4	4	0	0	0
46+	2	2	0	0	0
<b>Total</b>	<b>4,733</b>	<b>3,431</b>	<b>570</b>	<b>723</b>	<b>9</b>
<b>Average Service</b>		<b>18</b>	<b>18</b>	<b>18</b>	<b>20</b>

#### Year 2000 Plan

Years of Service	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
<1	310	191	92	27	0
1 - 5	1,943	1,464	278	198	3
6 - 10	1,410	1,059	202	148	1
11 - 15	23	18	5	0	0
16 - 20	1	1	0	0	0
21 - 25	0	0	0	0	0
26 - 30	0	0	0	0	0
31 - 35	0	0	0	0	0
36 - 40	0	0	0	0	0
41 - 45	0	0	0	0	0
46+	0	0	0	0	0
<b>Total</b>	<b>3,687</b>	<b>2,733</b>	<b>577</b>	<b>373</b>	<b>4</b>
<b>Average Service</b>		<b>4</b>	<b>3</b>	<b>5</b>	<b>3</b>

# Terminated Vested Member Data

## For the Year Ended June 30, 2010

### By Age

#### Closed Plan

Age	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
< 21	0	0	0	0	0
21 - 25	0	0	0	0	0
26 - 30	11	10	1	0	0
31 - 35	86	64	14	7	1
36 - 40	276	189	31	56	0
41 - 45	356	271	36	49	0
46 - 50	416	336	56	24	0
51 - 55	313	263	35	15	0
56 - 60	110	94	16	0	0
61 - 65	21	14	6	1	0
> 65	0	0	0	0	0
<b>Total</b>	<b>1,589</b>	<b>1,241</b>	<b>195</b>	<b>152</b>	<b>1</b>
<b>Average Age</b>		<b>46</b>	<b>46</b>	<b>42</b>	<b>33</b>

#### Year 2000 Plan

Age	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
< 21	0	0	0	0	0
21 - 25	0	0	0	0	0
26 - 30	30	22	7	1	0
31 - 35	54	46	4	4	0
36 - 40	50	43	5	2	0
41 - 45	20	18	2	0	0
46 - 50	19	16	2	1	0
51 - 55	19	19	0	0	0
56 - 60	13	10	3	0	0
61 - 65	5	5	0	0	0
> 65	0	0	0	0	0
<b>Total</b>	<b>210</b>	<b>179</b>	<b>23</b>	<b>8</b>	<b>0</b>
<b>Average Age</b>		<b>40</b>	<b>37</b>	<b>35</b>	<b>0</b>



# Terminated Vested Member Data

For the Year Ended June 30, 2010

## By Years of Service

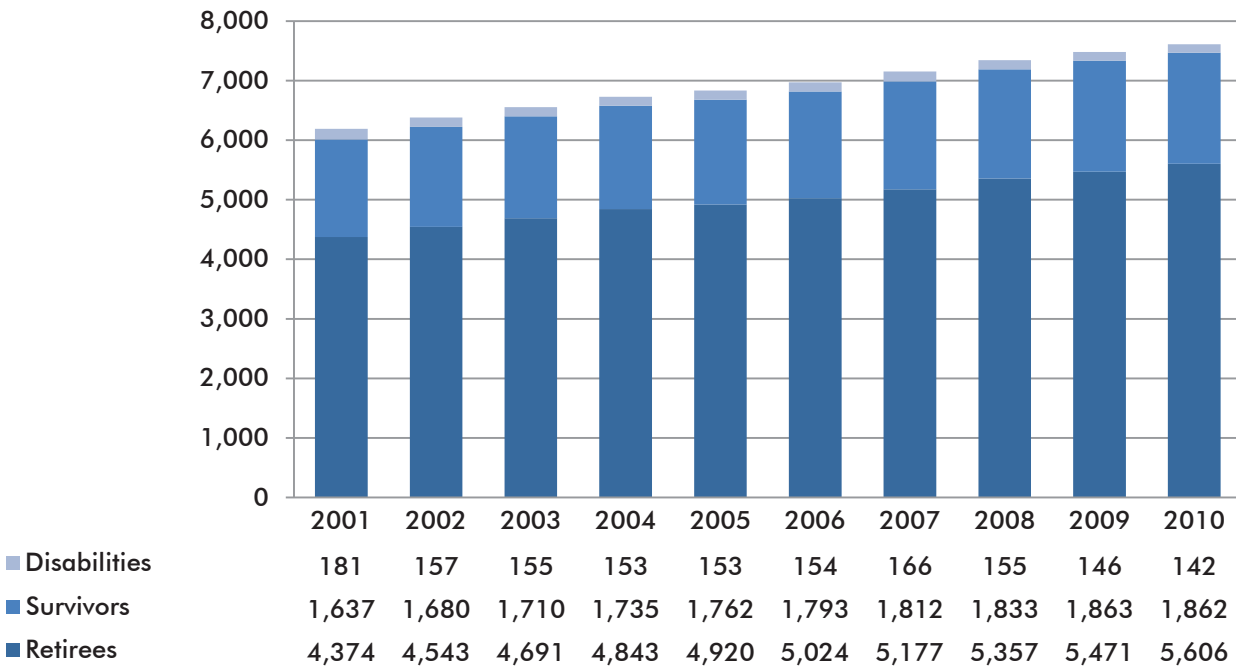
### Closed Plan

Years of Service	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
<1	0	0	0	0	0
1 - 5	220	164	30	26	0
6 - 10	780	606	89	84	1
11 - 15	374	294	49	31	0
16 - 20	143	120	15	8	0
21 - 25	64	50	11	3	0
26 - 30	7	6	1	0	0
31 - 35	1	1	0	0	0
36 - 40	0	0	0	0	0
41 - 45	0	0	0	0	0
> 45	0	0	0	0	0
<b>Total</b>	<b>1,589</b>	<b>1,241</b>	<b>195</b>	<b>152</b>	<b>1</b>
<b>Average Service</b>		<b>10</b>	<b>10</b>	<b>9</b>	<b>8</b>

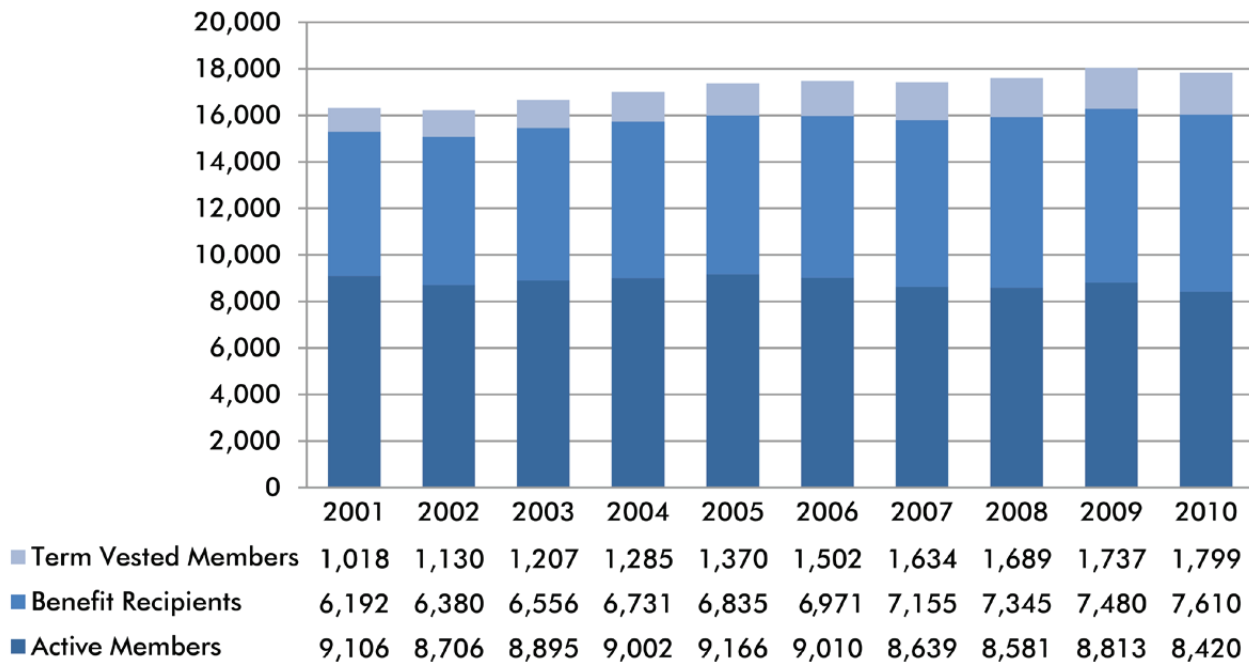
### Year 2000 Plan

Years of Service	Total	MoDOT	Civilian Patrol	Uniformed Patrol	MPERS
<1	0	0	0	0	0
1 - 5	84	71	12	1	0
6 - 10	117	100	10	7	0
11 - 15	8	7	1	0	0
16 - 20	1	1	0	0	0
21 - 25	0	0	0	0	0
26 - 30	0	0	0	0	0
31 - 35	0	0	0	0	0
36 - 40	0	0	0	0	0
41 - 45	0	0	0	0	0
> 45	0	0	0	0	0
<b>Total</b>	<b>210</b>	<b>179</b>	<b>23</b>	<b>8</b>	<b>0</b>
<b>Average Service</b>		<b>7</b>	<b>6</b>	<b>6</b>	<b>0</b>

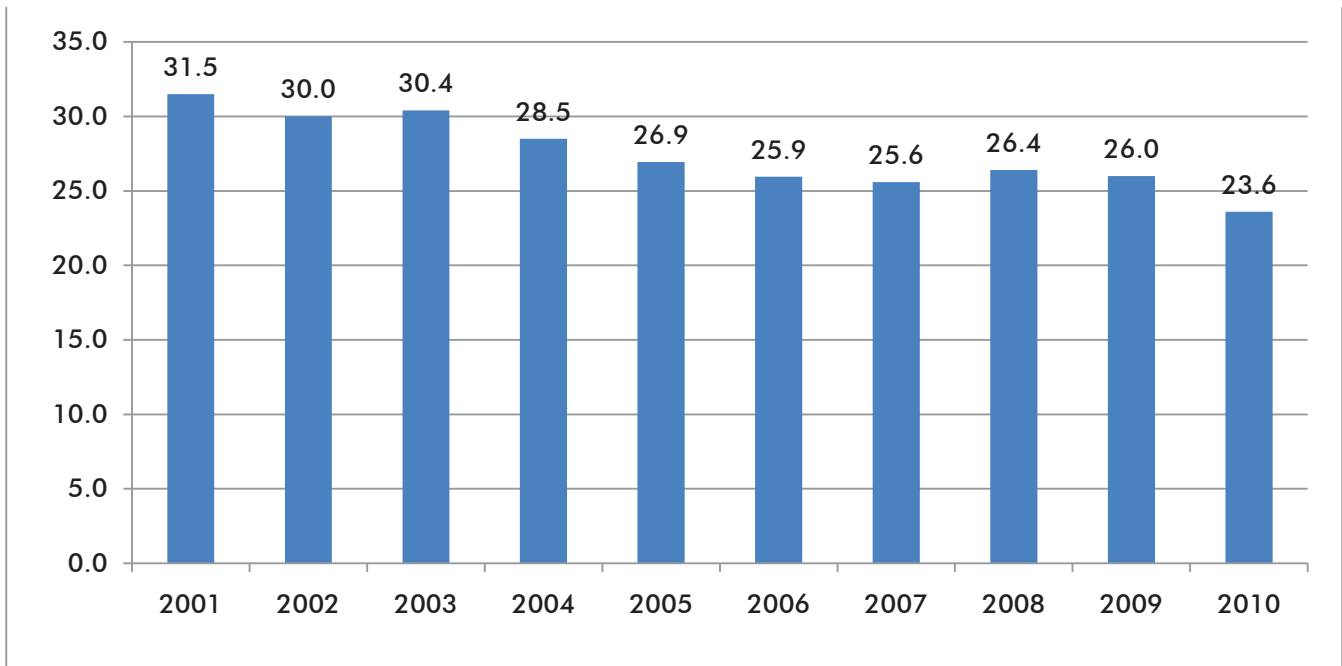
## Benefit Recipients



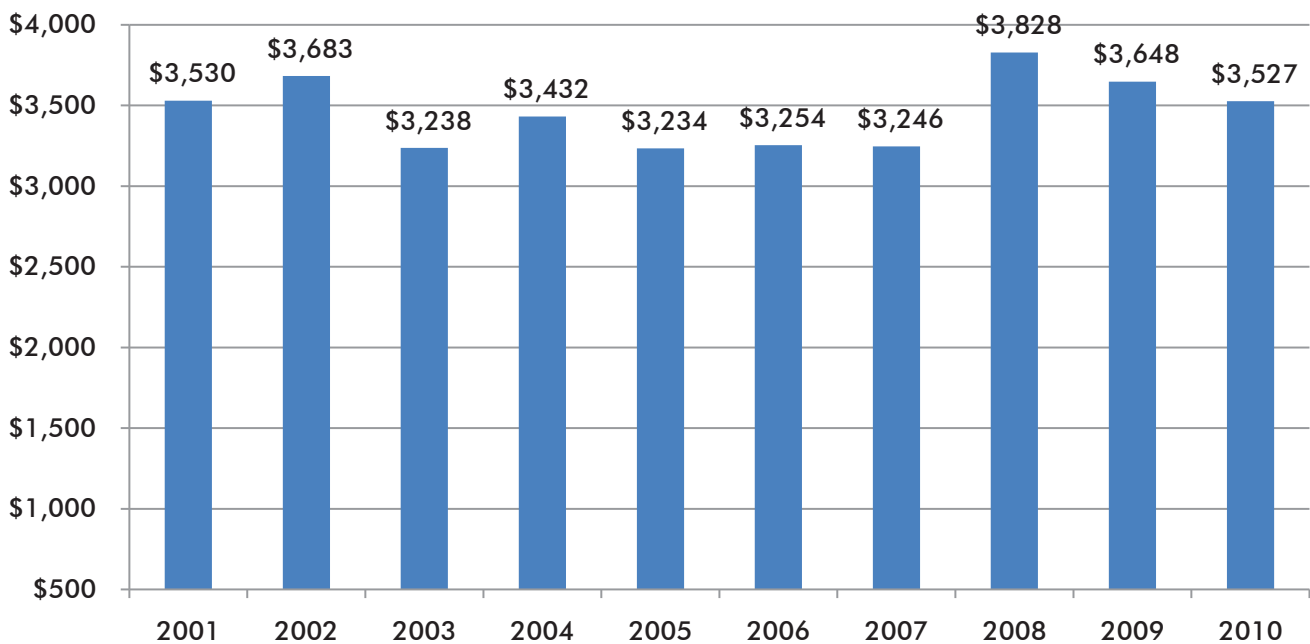
## Membership Distribution



## Average Years of Service for New Retirees



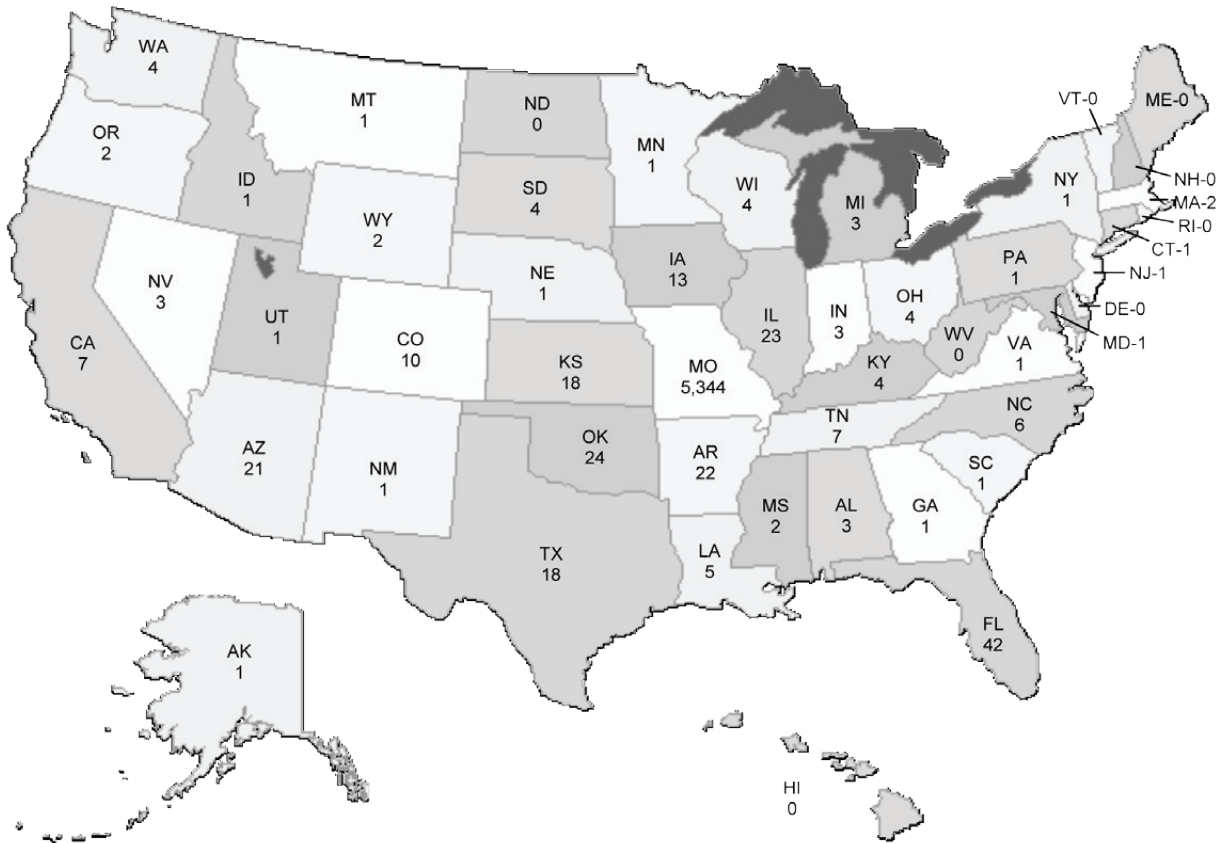
## Final Average Pay for New Retirees



# Location of MPERS Retirees

For the Year Ended June 30, 2010

This map represents the demographic distribution of retirees by state.



1 Retiree resides in England